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SOFTWARE DEVELOPMENT

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'STINGER' BUZZES INTO BETA, TYING DB2 TO .NET

BY YVONNE L. LEE

IBM Corp. demonstrated tools designed to make it easier for developers to use IBM's DB2 database with .NET applications at Microsoft's Professional Developers Conference held in Los Angeles in late October.

"These are things that we have demonstrated since June and are now making available on the Web for downloading," said Jeff Jones, director of strategy for IBM DB2 information management software.

Code-named "Stinger," the beta software includes add-ins to DB2 to integrate the database directly into Microsoft's Visual Studio .NET 2003 as well as with IBM's Rational XDE

Developer visual data modeler. These add-ins make it possible to create models and make them into parts of a database, as well as to create the Web services that connect to them.

"It's tying it all together so that you don't have to leave one environment to work in another," said Eric Naiburg, market manager for model-driven development at IBM's Rational Software division.

The database add-ins now take advantage of Microsoft's native ADO.NET Data Provider method, which makes DB2 integrate with .NET applications more smoothly than using ODBC or more generic data-

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Microsoft Steers 'Longhorn'

Developer conference focuses on internals of Windows XP successor

BY ALAN ZEICHICK

LOS ANGELES — Under a brown sky that combined the worst of smog and wildfire smoke, Microsoft Corp. used its annual Professional Developers Conference to discuss the internals of the next major update to Windows, code-named "Long-

horn." Despite the fires, however, the show was packed, with more than 7,000 developers in attendance, according to the company.

While Microsoft still isn't ready to commit to a date for Longhorn's release, all indica-

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At PDC, Bill Gates discussed Microsoft's investment in R & D.

Nokia Cleans Up Its SDK Act

Developer Platform 2.0: consistent device capabilities

BY EDWARD J. CORREIA

In late October Nokia Inc. announced that it was cleaning up its technology act, which had been speckled with dozens of mobile devices that may or may not run applications developed for others in the same series. This follows moves a month earlier, in which the company cleaned up its executive act with the formation of Nokia Enterprise Solutions, one of four new groups intended to help the company focus on convergence, new mobility markets and growth.

"What we were doing was to launch a whole lot of devices in the market with no messaging around what [developers] could depend upon within those," said Lee Epting, Nokia's vice president of developer operations. The

result, she admitted, was a laundry list of products that not only lacked consistency, but was a constantly moving target for developers.

"It wasn't clear that if we changed browsing technology in a [device], we were telling developers we had changed it. So if their application relied on that browser, it wouldn't work."

Epting, who spent the past six years involved in enterprise developer activities with Hand-spring and Palm, claimed that

Nokia is addressing the problem with the introduction of Developer Platform 2.0, Series 90, a set of specifications for its high-end mobile devices running Symbian OS 7.0 and J2EE MIDP 2.0. Nokia in the spring of 2004 will begin shipping the 7700, the first Series 90 2.0-compliant smartphone.

"Now we've defined base software for each platform," she said. "Every time we launch a

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DEVELOPER PLATFORM 2.0, SERIES 90

- Symbian OS 7
- MIDP 2.0, CLDC 1.0
- Wireless Messaging, Multimedia, Bluetooth APIs
- XHTML browsing over TCP/IP
- MMS messaging with SMIL
- OMA digital rights management, client provisioning
- 640 x 320 touch-screen GUI
- Stylus, Softkey, keypad navigation
- Handwriting recognition

Source: Nokia Inc.



Nokia had a laundry list of devices with no feature consistency among them, says Epting.

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Development Managers Confused About 'BI'

Overloaded acronym can mean business intelligence, integration

BY ALAN ZEICHICK

Business intelligence? Business integration? Both? Neither? The acronym BI, increasingly bandied about by vendors and analysts in the software development community, actually stands for "confusion."

In a recent study conducted by BZ Research, 48 percent of software development managers thought that the acronym stood for "business intelligence," while 38 percent thought that it meant "business integration." Thirteen percent said that they had no idea what it stood for, and about 1 percent thought that it meant something other than those two key primary meanings, with the most frequent alternative definitions being "bioinformatics" and "business information."

This study was conducted in early October and surveyed 433 software development managers. BZ Research is a subsidiary of BZ Media LLC, publisher of SD Times. The survey has an accuracy of 3 percentage points.

The reason BZ Research asked this question, and those that followed, is that numerous vendors are calling themselves leaders in the BI field, yet few vendors bother defining what they mean by BI. Indeed, even when they refer to it as business integration, there remains considerable confusion as to even what that means among software development managers. The word "integration" itself can be interpreted in many different ways, according to the study.

The study provided a list of 19 possible definitions of business integration, and asked

developers to select the definitions that fit their understanding of the concept. Respondents could select more than one definition.

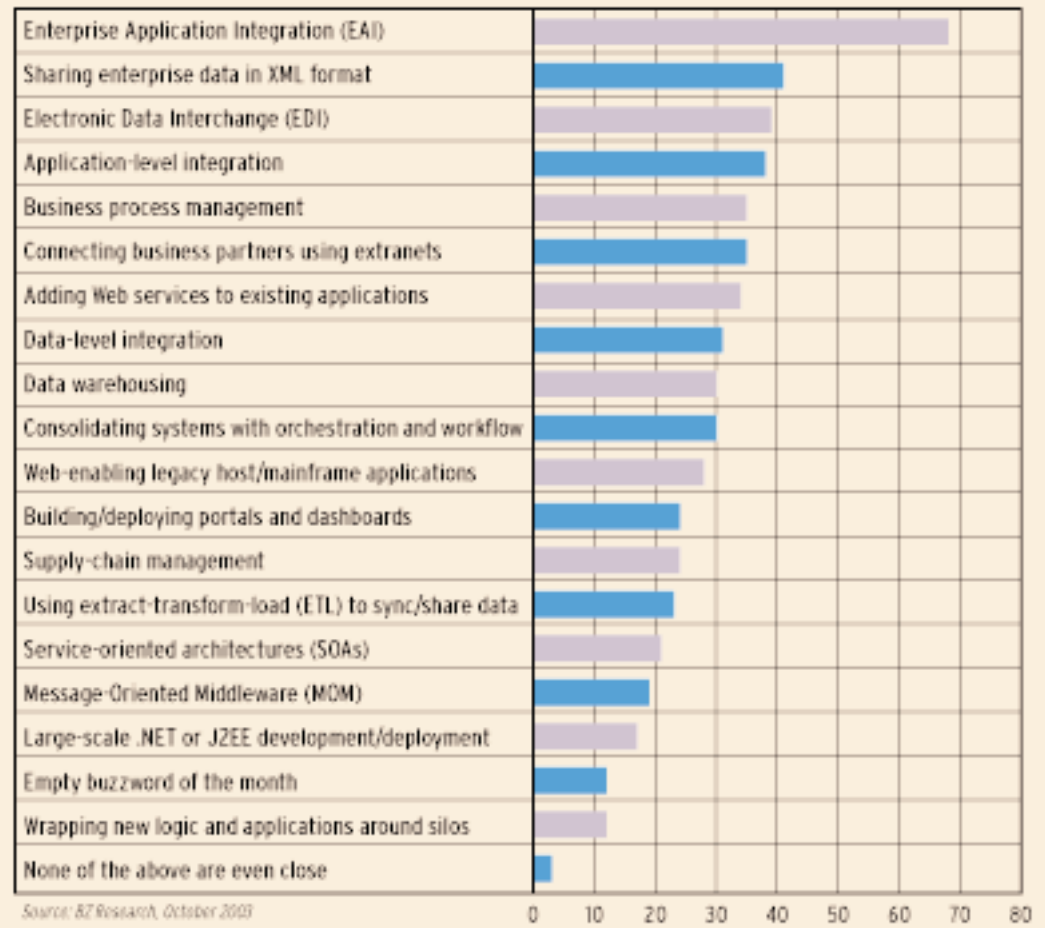
The most popular, with 68 percent of respondents, was Enterprise Application Integration (EAI). Next most popular, chosen by 41 percent of respondents, was sharing enterprise data in XML format. That was followed by Electronic Data Interchange (EDI), application-level integration and business process management.

Interestingly, about 12 percent indicated that they thought business integration was merely an "empty buzzword of the month."

Many of the respondents described the acronym BI as integrating discrete business applications with back-end systems based on a workflow, but others were much less clear as to the definition. Among the other responses to define the term: "Any new project IT is attempting to justify" and "BI is such a general term that it has almost no meaning."

While the concept of business integration, by its very nature, can span the enterprise, the study showed that software development management is in the driver's seat on many initiatives. More than half of the respondents—52 percent—said that development managers were involved in recommending and selecting business integration software, tools and services. Thirty-six percent said software architects were involved, 35 percent said CIO/CTOs, and 27 percent said systems analysts. ■

Which of the following phrases seem to closely match with your understanding of business integration?



Macromedia Gets eHelp

Web software maker to buy help software maker

BY YVONNE L. LEE

Macromedia Inc. in late October agreed to acquire eHelp Corp., whose flagship products include the RoboHelp context-sensitive help authoring software and the RoboDemo Flash-based demonstration software.

The deal, worth about US\$65 million in cash and stock, is expected to close by the end of December.

San Francisco-based Macromedia expects that RoboDemo will appeal to its existing base of Web developers and that RoboHelp will help it to expand into new types of customers, particularly technical and documentation writers.

"If you look at the two products, I would say that RoboDemo appeals to what our customers are already doing," said Ben Dillon, Macromedia's vice

president of business development. "People do use Dreamweaver and Flash today to build demonstrations and tutorials and even help systems."

RoboDemo will be useful to those who build software demonstrations, but also to e-learning developers, Dillon said.

Both companies stressed how their two product lines work to create interactive and immersive end-user experiences.

"One of the things we talk about is the ability to create great experiences across the board," said Miriam Geller, Macromedia's director of product development.

"FlashHelp, our new help format based on Flash, promises to revolutionize the user experience for both desktop and Web-based applications," read an eHelp formal notice signed by CEO and chairman

Jorgen Lien and CFO Anthony Oliver.

Although RoboDemo fits with Macromedia's existing line, the company has no plans to jettison eHelp's primary product, Dillon said.

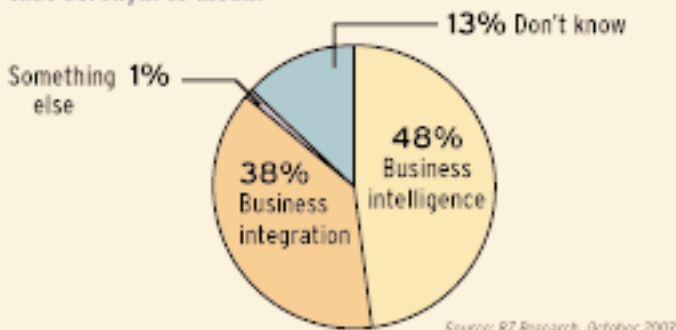
"One product is maybe directly core to Flash; this product [RoboHelp] is right next to it," he said.

Developers already can create RoboHelp help directly from within Dreamweaver using RoboHelp plug-ins. They also can generate online help that uses the Flash format. RoboHelp ships with a gallery of customizable FlashHelp skins.

Lien plans to retire after the deal closes; eHelp will continue operating from San Diego.

Macromedia officials declined to answer how or when products might be integrated or evolved. ■

When technology publications, analysts, colleagues and vendors refer to "BI," what do you generally assume that acronym to mean?

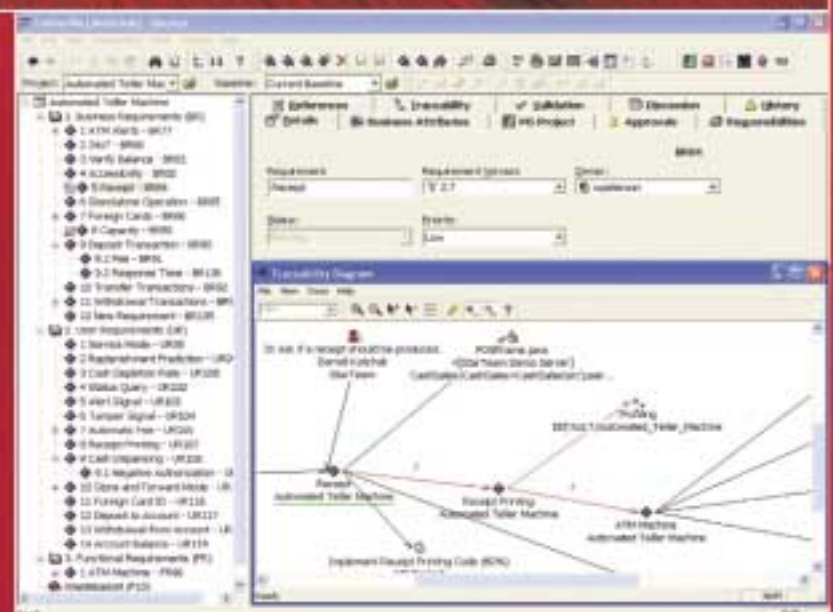




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ICAN 5 Sees Beyond Disparate Systems

SeeBeyond business integration suite adds reconciliation, GUI designer

BY EDWARD J. CORREIA

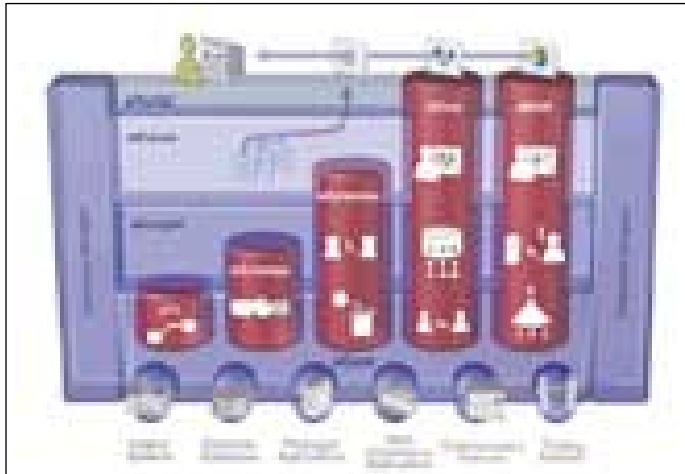
Companies with multiple customer-facing departments often deploy applications on separate, dedicated systems, which can bring about redundant client records and force manual reconciliation.

Claiming to address that problem is SeeBeyond Technologies Corp. The company in mid-October released the Integrated Composite Application Network Suite 5.0, the latest version of its J2EE-based business integration platform that it says includes a module that automates such reconciliation while preserving the original systems.

New ICAN modules include ePortal Composer, which enables the creation of customized views of data in dis-

parate systems; and ETL Integrator, for creating extract-transform-load integrations that can be triggered by external real-time events.

Also new is eView Studio, the reconciliation module that according to Alex Adrianopoulos, vice president of product management, is a tool unique to the industry using algorithms developed by California Institute of Technology engineers to cleanse, match and index user-defined business objects such as customers, businesses and products to eliminate redundancy. "For example, banks may have dedicated systems for checking, savings, brokerage and insurance accounts. eView Studio works with the rest of the suite and connects to those



ICAN adds a J2EE layer atop existing systems to integrate them.

respective systems to match and reconcile the data."

This is accomplished, he said, by attaching probability scores to fields deemed poten-

tially redundant to produce an overall score that two or more records apply to the same individual. "The benefit is that when an officer of the bank

looks for interactions with a customer, they get information about all interactions, not just those of one system."

The suite also now includes eVision Studio, a drag-and-drop environment for creating JSP-based interfaces that Adrianopoulos claimed requires no Java programming, making it suitable for nontechnical business analysts. Prior to eVision Studio, ICAN developers were forced to use HTML design tools such as Macromedia's Dreamweaver. "Dreamweaver is an excellent tool for somebody who knows HTML. However, if I recommended it to a business analyst, he would kick me out of his office because business analysts don't want to do any programming."

Offering tools for nontechnical staff is part of how SeeBeyond differentiates from companies such as BEA, which he characterized as infrastructure plays. "BEA offers an array of development tools, some of them quite nifty. But their audience is strictly development shops. They do nothing to bridge the gap between business analysts who are trying to solve business problems with technology, and the development organization."

Further, Adrianopoulos said SeeBeyond differentiates its products from so-called traditional integration tools developers, such as TIBCO, by offering more than simple point-to-point interfaces between enterprise applications. "[TIBCO tools] are not building composite applications. ICAN permits developers to add new business logic and GUIs to existing enterprise apps, or simply to create point interfaces to extend the reach of existing applications, he said.

Integrated Composite Application Network Suite 5.0 is available now for Linux, Unix, Windows and mainframes. All components are J2EE 1.3-compliant and certified to run on BEA's WebLogic, IBM's WebSphere or SeeBeyond's Integration Server J2EE runtime environment, which is included in the suite. Module pricing ranges from US\$20,000 to \$200,000, with the price of an average deployment around \$500,000, Adrianopoulos said. ■

Gorilla Interprets, Executes UML Models Directly

Slower execution offset by faster development time, company claims

BY DAVID RUBINSTEIN

A new runtime engine that can execute UML models directly, without relying on code generators, is going into beta next month with the promise of eliminating "develop" from the design-develop-test-deploy cycle.

The new Gorilla Execution Engine was developed at Gorilla Logic Inc., which was founded by three former Sun consultants. That experience gave the founders valuable insight into how projects were being developed, what the pitfalls were, and how to overcome them in a timely and cost-effective way, according to Gorilla CEO Stu Stern.

The Design Edition of the execution engine, expected to be ready for general release in March 2004, is designed for modelers and architects already familiar with UML, Stern said, and lets them run prototypes of their designs prior to release into the implementation phase.

Using only proprietary extensions of the UML Class Diagram, modelers can use any design tool to create high-level business domain models and business rules, which become the executable "code" at runtime, Stern said. That model is then run on the Gorilla engine, which he described as



The Gorilla engine interprets declarative diagrams for procedural logic.

a Java application that runs on any J2EE-compliant application server.

The advantage of executing UML directly, the company claims, is in the amount of development time saved to get an application up and running. Brendan McCarthy, chief technology officer at Gorilla Logic, acknowledged there is a minor performance hit to this approach, but he said the company didn't think it was significant when compared with the reduction in time to complete a project.

Gorilla Logic's approach, McCarthy argued, enables greater control over the complexity that underlies enterprise Java applications, because users of the new platform can express many of these complexities in the model. "We won't be as fast

as handcrafted code," Stern said. "But we've been hearing that question for 20 years at Sun [regarding the performance of Java, an interpreted language]. The answer is, yeah, it's slower, but it's fast enough. And, you're getting massively faster development time."

McCarthy brought his years of expertise in the artificial intelligence market, as well as knowledge acquired as chief methodologist of Sun Professional Services, to help create the engine. The application that results from the model includes a user interface for transacting with data stores, as well as the underlying business logic.

"It's fully declarative; there is no specification of steps," Stern said. "In UML, for instance, you specify the relationship between invoice and

order, and [the Gorilla engine] can deduce the procedural logic. 'Receive an invoice, is there an order, if not, reject'—all of that is expressed without step-by-step logic," he claimed.

"The whole problem with procedural logic," McCarthy said, "is that you have to handle all the cases. You have to work through each case—if this, then this—and that is very time-consuming."

In instances when developers wish to solve a problem by writing code rather than changing the model, the engine comes with Java APIs for direct access into the application, Stern added.

The engine also acts as a Web services generator, Stern explained, by importing WSDL schema as UML. "We can generate a Web service from a WSDL file, but it won't have the business logic behind it," he said. "But it can be mapped into the underlying object model" where the logic resides.

The company plans to release an Enterprise Edition of the engine, which is expected to be generally available by the end of next year. That edition would add better user controls, unlimited users, pluggable authentication and database management, runtime failover and Web services security. ■

News Briefs

COMPANIES

Middleware vendor **Fiorano Software Inc.** has rebranded its Tifosi integration software as Fiorano Business Integration Suite . . . **WebmasterSolutions**, a company offering performance testing and application monitoring services, has changed its name to **Webmetrics**.

PRODUCTS

Oak Grove Systems Inc. has updated its J2EE-based **Reactor** workflow engine. Version 5.5, priced at US\$10,000 per server processor, includes integrated forms, graphical routing rules, business activity monitoring and a WSDL-based API . . . Version 5.0 of Parasoft Corp.'s **Jtest** unit testing software can now generate tests in JUnit format. The tool, which runs on Linux, Solaris and Windows, can now detect memory leaks, and can plug into IBM's Eclipse and WebSphere Studio . . . Apple Computer Inc. shipped the desktop and server versions of **Mac OS X 10.3** on Oct. 24. Panther costs US\$129, and Panther Server is \$999 for unlimited client connections . . . Microsoft Corp. is offering a free **Visual Basic .NET Resource Kit**, which includes licensed components from Dundas, Infragistics, ComponentOne and

Sax.net, as well as code samples and upgrade guides. It can be downloaded from msdn.microsoft.com/vbasic/vbrkit . . . Altova Inc. has added C++ and C# code generators to its **MapForce 2004** visual mapping tool for database-to-XML schemas. The new features are a free downloadable upgrade . . . Oracle Corp. has released a single processor version of its Oracle 9i database, called **Oracle Standard Edition One**, for US\$5,995, or for \$195 per named user, with a minimum of five users . . . Cybermation Inc. has released new and updated tools in its **ESP Espresso** enterprise job scheduling software suite. These include a graphical job viewer, a z/OS system agent and Web services interfaces for its workload manager . . . InstallShield Software Corp. has released **InstallShield Express 5**, its scriptless install generator for Windows. The update has a new wizard-based authoring interface and plugs into Visual Studio .NET. The software costs US\$349 . . . Micro Focus International Ltd. has updated its **Net Express** COBOL tools for .NET. Version 4.5 can plug into Visual Studio .NET and compile COBOL source to MSIL to allow apps to run under the .NET Framework . . . Cape Clear Software Inc. is targeting telecommunications vendors with the latest version of its Web services management system. **Cape Clear 4.5** adds asynchronous processing using MQSeries or JMS as an XML transport, event correlations and stronger notification services. It also supports PARLAY-X, an XML format used by telcos . . . ComponentOne LLC has released the fourth-quarter update of its **Studio Enterprise** suite of Windows and .NET components. New additions include charting and grid components for the .NET Compact Framework, and a spell-checker for ASP.NET WebForms apps . . . Version 1.5 of **Iron Speed Designer**, a code generator for .NET from Iron Speed Inc., now can internationalize and localize applications with date/time, currency, left/right text and other factors. It also has enhanced database access capabilities . . . Versant Corp. has shipped a Java Data Objects-compliant interface for its VDS object database. Based on code licensed from SolarMetric, the new **Kodo JDO Versant Edition** costs US\$3,000 per developer per project . . . Version 5.5 of **IgxReportDev**, an XML reporting tool from LogiXML Inc., now allows application processes and actions to be launched from within a report. It can also embed subreports, and has a new XML data layer to separate data from distributed data sources . . . TGS Inc. has updated **Open Inventor for Java**, its 3D graphics development API and toolkit, to be compatible with JDK 1.4. Version 4.0 also offers new options for rendering transparency and outputting image sequences to MPEG files, and has new features for 3D textures . . . **RegistryFusion**, a set of Windows tools from Hexillion Technologies, provides XML-based programmatic access to the Whois system, which is the Internet service that provides information about specific domains. The software



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IBM Puts Its Stamp On Source Validation

Previews tool for automating J2EE code reviews

BY DAVID RUBINSTEIN

Trying to address the complex issue of finding application defects in J2EE source code, IBM Corp. last month released as a technology preview an automated code review tool called J2EE Code Validator, which was created as a plug-in to the WebSphere Studio Application Developer environment.

The new tool has an extensible knowledge base that includes both best practices and anti-patterns to help developers create better software, according to IBM's Robert Johnson, the software researcher who headed up the J2EE Code Validator project. A WebSphere Studio user can look at his application assets in one pane, run that code against the validation tool and get another pane to pop up listing the problems, Johnson explained. A third pane would show the line of code where the defect exists, and the user can drill down to get a fourth view with an explanation, tailored to the developer, of what's going on in the code and suggestions for how to fix it.

By automating the process, Johnson said, organizations

can more quickly prioritize which problems should be dealt with first, and better utilize their resources to get the project completed. It also reduces the amount of time project teams spend reading through thousands of lines of code looking for issues. "It's a challenge to identify and track down these problems—they could be in the code, or in the configuration."

CODING IS COMPLEX

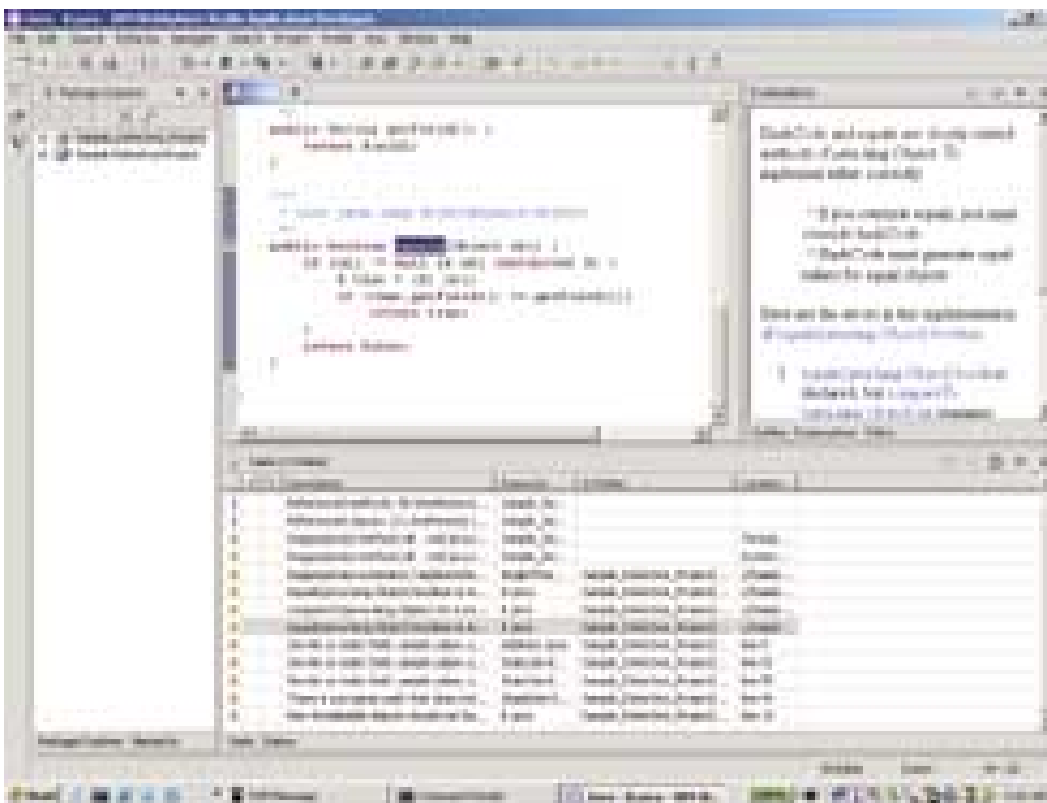
Johnson said the problem is not that developers are not yet savvy enough about J2EE, but rather that coding to the J2EE specification is very complex. "The people doing distributed computing are dealing with IP routable zones, firewalls, application servers, databases, portal front ends and back-end legacy systems or third-party applications," he said, citing the high cost of testing and quality assurance. "We want to validate the application before it goes into testing, to make their lives easier and make testers and the people doing code review much more effective."

Johnson stressed that IBM's research department works very closely with the company's

customers, and was able to get a clear understanding of the requirements for J2EE Code Validator before writing the tool. Then, working in conjunction with the WebSphere team, the group was able to draw from a broad knowledge base to create the rules and best practices inside the tool.

"There are a set of anti-patterns we're seeing repeatedly," Johnson said, such as applications failing to properly release resources when they're done using them. "We thought it would be good to validate against these things with automation." The rule set, which currently can detect several hundred programming issues, is extensible, he added, so customers can create their own rules for code. "It helps the lead architect or project leader enforce his coding guidelines across developers and through the process," he said.

The tool, which Johnson said also will be able to be used outside WebSphere Studio, is expected to become widely available next year. It is available now for download at www7b.software.ibm.com/wssdd/downloads/j2eeecv_install.html. ■



J2EE Code Validator can identify a problem down to the line of code and make suggestions to correct it.

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'LONGHORN'

← continued from page 1

tions are that it will appear in 2005. For the first time publicly, the company revealed the sweeping changes internal to the operating system, including a tighter integration between the .NET Framework and core system services.

At the conference, Microsoft presented many technical sessions on Longhorn, and also on "Yukon," the replacement to SQL Server 2000 that's expected to be released in the second half of 2004, and on "Whidbey," the successor to Visual Studio .NET 2003 to be delivered concurrently with Yukon. Microsoft provided early alpha-level versions of Longhorn and Whidbey to developers at the show; they will also be distributed to Microsoft Developer Network subscribers by request.

During his opening keynote address, Microsoft chairman Bill Gates emphasized the company's continuing investment in R&D, and touted its staunch commitment to software security. The solution to many security problems, he said, is to get customers to install patches and updates more quickly. "People whose software was up to date did not experience the problems" caused by recent security issues, according to Gates.

He also discussed the company's hardware-based security initiative, which the company unveiled several years ago under the code name "Palladium." Now called Next Generation Secure Computing Base, this future direction will have firmware-based security mechanisms that prevent third-party applications from accessing some cryptographic features within Windows.

"We're working with the hardware vendors to be able to create a system so that we can boot, and ensure that we're booting securely, and that we can create shadowed memory where code can execute but you can't debug it" and therefore crack its security, said Jim Allchin, group vice president of platforms, regarding NGSCB.



Microsoft is creating a unified presentation model, says Allchin.

FROM 'AVALON' TO 'INDIGO'

The four key new developer-oriented features of Longhorn are WinFX, the next generation of the .NET Framework; "Avalon," a new XML-based presentation layer that provides a common set of APIs for Web-based and local applications; "WinFS," a new storage subsystem that rides above NTFS that acts as an object XML repository and persistence layer; and "Indigo," a new communications subsystem that merges Web services, remote procedure calls, remote object invocation and message-oriented middleware.

"What we're doing in Avalon is creating a unified presentation model for

ROAD MAP TO 'ORCAS'

While much of Microsoft's PDC focused on next year's expected release of the "Whidbey" version of Visual Studio .NET, the company did provide hints about the subsequent version, code-named "Orcas," slated for 2005. That release is tied to the "Longhorn" version of Windows. That version will have tools for working with the new "Avalon" user interface, "WinFS" storage subsystem and "Indigo" Web services subsystem.

Windows apps, for Web apps and for media and animation type applications," said Allchin, explaining that the unified Avalon model is vector-based, and has a single driver for both 2D and 3D applications; currently, Windows uses different 2D and 3D driver models, which requires a lot of slow context switching.

Avalon also introduces a new declarative language for defining application presentation on the Windows screen, code-named "XAML," or Extensible Avalon Markup Language.

According to Ed Kalm, a product manager within Microsoft's Windows development platform group, the biggest difference between the .NET Framework and WinFX is that while the original .NET Framework ran on top of Win32, WinFX is built directly into the operating system. That turns the Common Language Runtime and shared libraries into core system features—working as peers with the older Win32 APIs, in terms of access to system services and performance. According to Kalm, that will mean higher performance and more stability for applications.

While WinFX is the official name of that Windows feature that replaces the .NET Framework, said Kalm, the Avalon, WinFS and Indigo terms are code names that may change prior to the operating system's official launch. All three of those features, which the company also referred to as "pillars," sit atop

WinFX, and also will be built into the Longhorn version of Windows. He said that at the present time, Microsoft has no plans to offer plug-in versions of those features for older versions of Windows. "Whether that's for technical reasons or for business reasons, I can't say," Kalm explained, implying that the company will have financial reasons to want to migrate users to the new platform.

Also at the conference, Microsoft unveiled some changes to the Whidbey version of Visual Studio .NET, which had been first demonstrated at the company's Tech Ed conference in April. New is a feature called Edit and Continue, which allows developers to make minor bug fixes to applications and continue testing without having to restart



WinFX is built into the operating system, while Avalon, WinFS and Indigo sit atop WinFX.

the software. This feature, which had existed in pre-.NET versions of tools such as Visual Basic, disappeared with VS.NET.

Whidbey also will have a new design tool, which Microsoft has code-named "Whitehorse," that's designed to offer a drag-and-drop interface for discovering Web services and incorporating them into applications. That feature, along with a simplified one-click approach to deploying applications over the Internet to desktops and servers, was demonstrated at the conference.

Microsoft also showed the next version of its Tablet SDK. Version 1.7, expected to be delivered in mid-2004, allows "inking" on a Web page, and better handwriting recognition by "context tagging" specific data input fields to reduce the number of options, explained Cory Linton, a product manager in the Tablet PC marketing group. The new SDK also has real-time pen reading; previously, pen gestures were recognized and digitized only when the pen was lifted from the screen. Now, he explained, pen position and pressure can be polled by the developer even while drawings are being created.

THIRD-PARTY DEVELOPMENTS

On the PDC exhibit floor, nearly all of the third-party tools vendors were fervently announcing their future support for Microsoft's forthcoming software. Some firms, such as **Infragistics Inc.**, were even demonstrating add-

ins to Longhorn; in this case, the company was showing its next-generation data grid.

In other news, **PreEmptive Solutions Inc.** updated its US\$1,495 Dotfuscator Professional code-obfuscation software to version 2.0. The new version works with managed C++ code and also offers greater control over debugging and report generation, and can insert invalid metadata into finished binaries to confuse reverse-engineering efforts.

Merant Inc. announced Dimensions for .NET, a version of its change management system that's designed to integrate with VS.NET 2003, SQL Server 2000 and Windows Server 2003. The software is due to ship by the end of the year; pricing was not available.

Version 3.2 of Virtuoso Universal Server, a data integration server from **OpenLink Software Inc.**, adds new XML data types, SQLX-compliant SQL-to-XML conversation, and support for WS-Security and WS-Routing. Virtuoso runs within the Common Language Runtime, and now also on the Mono open-source version of the CLR.

And **AppForge Inc.** announced CrossFire, a new mobile and wireless development plug-in for VS.NET 2003. CrossFire is designed to let developers use Microsoft's tools and languages to build apps for non-.NET devices, like Palm OS and Symbian UIQ. The software will ship in December, and will cost US\$899 per seat. ■

CODENAMES.NET

You couldn't tell the code names without a scorecard at the Professional Developers Conference. Here's a list of the most common ones used at the event:

Aero – The revamped user interface in Longhorn, built on Avalon and WinFS.

Avalon – The new presentation layer in Longhorn.

ClickOnce – New one-button app deployment feature in Whidbey.

Indigo – The new Web services communication subsystem in Longhorn.

Longhorn – The next version of Windows XP, expected in 2005.

Orcas – The version of VS.NET to go

with Longhorn, expected in 2005.

Whidbey – The version of VS.NET to go with Yukon, expected late 2004.

Whitehorse – The Web services designer in Whidbey.

WinFS – The new XML-based storage subsystem in Longhorn.

XAML – Extensible Avalon Markup Language, a declarative display language.

Yukon – The next version of SQL Server, expected late 2004.

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Relativity Opens Apps to Analysts

New COBOL tool gives IT access to program screens, relations

BY EDWARD J. CORREIA

Few developers spend every minute writing code; some of their time is spent discussing with business analysts and support staff how to improve deployed applications based on user input. A new product from Relativity Technologies Inc. might alleviate some of that burden from developers.

The company in late October released Application Profiler, a module for its Modernization Workbench COBOL lifecycle management platform that empowers analysts and other IT personnel to access program screens and see relationships among applications, databases and other systems to create informed developer work requests, making more efficient use of their time with the development team.

"Maintenance and enhance-

ment of mission-critical applications can be a challenge for developers, and can cause [problems] for QA and business analysts unfamiliar with the structure of an application," said Charles Dickerson, Relativity's vice president of marketing and product management. "Like the ATM allows bank customers to serve themselves, business analysts can use Application Profiler to serve themselves."



Analysts can get information themselves, instead of asking developers, says Dickerson.

Dickerson said that in the absence of such a system, a typical business analyst would approach a developer with concerns from users and ask questions about how the company's applications and data systems might be impacted to cater to changing user requirements. "And the developer would go off and maybe spend a half a day collecting information to give to the ana-

lyst. Now the analysts can get all the information themselves without having to ask the developers any questions. [The Application Profiler] does high-level impact analysis so business analysts can collect more information to provide to developers."

A browser-based application, Application Profiler taps into the code repositories built

by Modernization Workbench to allow analysts to display source code and create code reports and metrics, and to view and track files, tables, screens and jobs referenced by legacy applications. The new module also provides visualizations of program-to-program relationships, including information flow, transaction interactions and program-to-table

or program-to-data store. "If a policy changes in an organization and an analyst needs to add a field to a screen, they can display the screen and see all the programs that interact with it" to understand how changes will impact other applications, Dickerson explained.

Available now, Application Profiler costs US\$1,000 per named user or \$1,500 per concurrent user for sites with 100 or more users. Also required is Relativity's Modernization Workbench, which starts at around \$200,000. ■

UML Management Tool Now Tracks Bugs

BY YVONNE L. LEE

Tassc Ltd. has added a bug-tracking module to the latest version of its Estimator UML project management software.

The new module makes it possible to track software development time and costs more accurately by adding bug fixing into the equation, said Tassc co-founder Gillian Adens. With the new module, groups can track bugs by name, assign a severity to them, and farm them out to engineering teams. Organiza-

tions can add new bugs to the list and gain a clearer picture of how long it will take and how much it will cost to finish a project.

Other modules can rate the skills of team members to help assign the bug fixing and other tasks. Groups can track the status of bugs until they are resolved and retested.

"We're really trying to support the needs of iterative software development," Adens said.

Other enhancements to the 2003 version of Estimator in-

clude performance improvements, a log of all edits made during a session, warnings of possible schedule conflicts, and improved scheduling for whole projects, jobs and parts of jobs.

Estimator comes in three versions. The bug-tracking tool is available only in the Manager version of Estimator, which is priced at US\$4,900.

A trial version can be obtained from the Livingston, Scotland, company's Web site (www.tassc-solutions.com). ■

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News Briefs

MORE PRODUCTS

< continued from page 6

costs US\$199 . . . Ektron Inc. has released **eWebEditPro+XML 4.0**, an update to its browser-based XML authoring tool. The new release includes a new designer for creating XML structure and supporting documents, including XSLTs and schemas. Prices start at US\$299 for 10 users . . . NetManage Inc. has introduced **Host Access Platform**, an integrated suite of tools for integrating mainframes with J2EE and .NET. It also has shipped **ONWEB 7.0**, an update of its server



that allows host applications to be consumed as Web services. The new release lets applications be integrated as either Web services or as .NET Framework components . . . Dart Communications Inc. has released **PowerWeb TextBox for ASP.NET**, a US\$199 Web-based HTML editor component designed to replace WebForms text boxes with a richer environment . . . Microsoft Corp. has released a beta of

Windows Server 2003 for 64-bit Extended Systems, for AMD's Opteron and Athlon64 processors, and has pledged to release a Standard Edition version of Windows Server 2003 for Itanium processors; currently it offers only more expensive Enterprise and Datacenter versions. The company also has shipped its **Windows Small Business Server 2003**; prices start at US\$599 for the basic server plus five client access licenses . . . In January, Macrovision Corp. will ship **FLEXnet**, a software licensing platform for software publishers. FLEXnet is embedded into source code or wrapped around it, and lets developers generate, track and enforce software licenses . . . LogicLibrary Inc. has added new adapters for its **Logidex** asset library. It now can interface with IBM's Rational ClearCase, Microsoft's Visual SourceSafe and Merant's Version Manager . . . SkinCrafter.com has released an ActiveX library that lets developers create "skinnable" user-replaceable graphics interfaces for Windows apps. The **SkinCrafter** library, which costs US\$399, works with Windows Forms and other COM-compliant applications . . . Percussion Software Inc. has announced **Lyrinx**, a



tool that allows Domino content to be exposed to custom-written applications. The software translates Domino attributes into XML and XHTML, maintaining content relationships. Pricing starts at US\$34,000 . . . Hit Software Inc. has updated its set of XML-to-database transformation products. **jAllora 3.5**, for Java applications, now can plug into IBM's Eclipse and WebSphere Studio, and supports XPath. **winAllora 3.2**, for Windows, now supports Microsoft's XML Data-Reduced (XDR) format for data type definitions . . . Aladdin Knowledge Systems Inc. has tightened the security in its **HASP** software licensing and anti-piracy tools. The update contains a new Win32 envelope that wraps software and prevents code from being analyzed with a debugger, and also can more easily revoke outdated software licenses . . . Accelerated Technology, a division of Mentor Graphics Corp., has released a version of its **XRay** debugger for Symbian OS. Pricing starts at US\$2,495. The company also released a 128-bit and 256-bit AES (Advanced Encryption Standard) plug-in for its **Nucleus Secure Sockets Layer** software. Licenses start at \$2,995.



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PEOPLE



Bret Hartman has joined DataPower Technology Inc. as VP of technology solutions. Previously he was CTO of Quadrasis Inc. . . . Database vendor Sleepycat Software Inc. has named **John Gaffney** as its new VP of business development; he had held a similar role at Viacore . . . **Mark Register** is the new VP and chief marketing officer of Ascential Software Corp. Register had been president of worldwide field operations at Mercator Software Inc.

STANDARDS

Open Source Development Lab, a vendor consortium, has completed its **Carrier Grade Linux 2.0** specification. The new spec adds requirements for clustering, security and high-availability features. ■

VersionOne Gets Into Scrum

Agile development framework supports second process

BY DAVID RUBINSTEIN

Agile development framework provider VersionOne LLC has extended its V1 Enterprise solution to cover the Scrum process, and has added several new features.

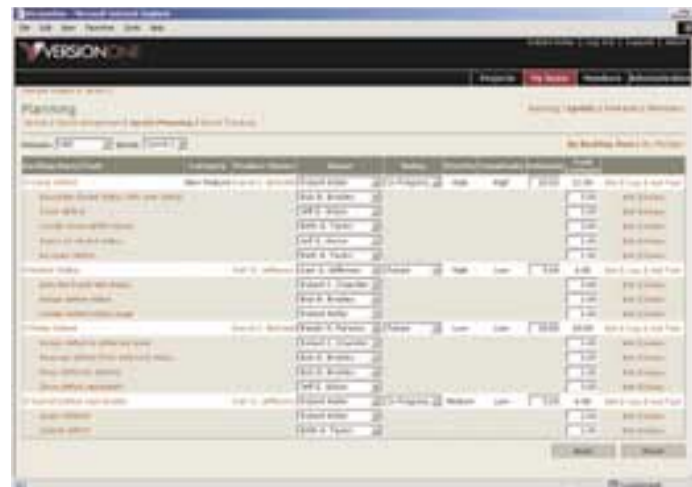
"Scrum has a great community, and I have seen it implemented in a number of scenarios," said VersionOne president and co-founder Robert Holler.

The differences between the versions are primarily around terminology, management methods and the focus, Holler said. "Scrum is less concerned about where you're from and actual time frames and wants to know simply what's left to do," he explained.

In fact, because Scrum methodology is less concerned about the detailed steps, V1 Enterprise users can turn certain data elements off or on to accommodate the methodology they're using, Holler explained.

The initial release in March of V1 Enterprise supported Extreme Programming, or XP. "In XP, you call something a story, while in Scrum you call it a backlog item. In XP you have an iteration, while in Scrum you have a sprint."

Among the new features is the ability to drag and drop backlog features onto an iteration, making the process more visible and simplified by giving the users the ability to see on screen what previously had to be drawn on a whiteboard, Holler said.



VersionOne displays a sprint planning page for a Scrum project.

Also new to the framework, which sells for US\$500 per developer, are the ability to manage multiple projects at once, and the inclusion of acceptance tests, which Holler described as akin to business rules. "It's the criteria a story must meet to be accepted," he said. "If you have an invoice, you need to check to make sure there are no other invoices with that number before it is accepted."

The ability to insert and exchange notes on projects also has been included, as has the ability to take a snapshot of a release at any point to compare it with prior iterations to check progress, he said.

Holler said a version of the framework for Dynamic Systems Development Method (DSDM), another agile process, is due out in the next few

months. "We're starting to get past the early adopter period [for agile processes] and into the mainstream," Holler claimed. "The [software development] industry in general is starting to make a broader-based transition" to agile processes.

Holler said after DSDM, the company will look at providing a framework to ease feature-driven development, which calls for an object model to be created, a feature set list to be formed, a plan to be drawn up and then a design based on the features that fills in the earlier object model. The milestones for feature-based development must be very sharply defined to monitor progress, advocates maintain.

"We're built on iterative development," Holler said. "We can support many of these methodologies." ■

RECURSION UPDATES C++ LIBRARIES

BY ALAN ZEICHICK

Recursion Software Inc., a C++ tools company based in Frisco, Texas, has released an update to Voyager, its implementation of the Java Message Service, and to C++ ToolKits, a set of portable class libraries for multithreaded applications. The company also is preparing a new C++-based math toolkit.

Version 4.7 of Voyager, which the company claims is compliant with Sun's J2EE specifications for JMS, can now communicate using Axis, an implementation of SOAP 1.2 created by the Apache Software Foundation. The new release also can dynamically

generate WSDL files for exported objects.


Beyond Web services, Voyager 4.7 contains new properties for remote method invocation.

The company's C++ Toolkits 3.1 update now supports 64-bit operations when running on the appropriate processors and operating systems. It also adds classes to support generic function pointer classes, and to allow threads to wait on multiple semaphores. The toolkits now support four additional compilers and operating systems: 32-bit Windows using Visual C++ .NET 2003; Solaris 8 on SPARC using Sun C++ 5.4; Solaris 9 on SPARC using Sun C++ 5.5; and

Linux kernel 2.4 on Itanium 2 processors using g++ 2.96 and 3.31.

The new math toolkit, to be launched at the end of this month, includes classes and algorithms for manipulating complex numbers, vectors and multidimensional arrays. It also contains algorithms for LU factorization (for solving linear equations) and Fast Fourier Transformations, and several random number generators based on uniform, normal, Poisson, gamma, exponential and binomial distributions of random data.

Pricing was not available for the new and updated software. ■



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Gupta Enhances Its Environment

Updates Team Developer to target Apache on Linux, export XML

BY EDWARD J. CORREIA

While most development tools companies already have taken the plunge into Linux and/or XML, Gupta Technologies LLC is first preparing to dip its toe into the waters next month with the launch of Team Developer 3.1, its latest 4GL development environment, scheduled for Dec. 7. The company claims

users can build Web server apps that target Apache running on Linux and that can interoperate better with other apps by exporting data grids to XML files or schema.

Suren Behari, product manager for Team Developer, said that prior to this release, application deployment platforms were limited to Microsoft's IIS,

Netscape or other CGI-based Web servers. "Linux and Apache are becoming the de facto standard [deployment platform] around the world, especially Europe," he said. The environment also can create rich-client applications for Windows desktops.

An advantage to adding Linux support, Behari claimed, is

that the choice of deployment platform is not either/or. "It opens Web development up to multiple platforms. You can write one application that targets different Web servers, depending on where your components sit. For example, your COM objects [could be] on Microsoft and your database on a Linux box. And the beauty is that you don't have to change the code at all, just the URLs to target the [appropriate] Web servers."

Behari said version 3.1 also includes major improvements to the debugger, among which is a breakpoints dialog window that allows developers to manage all their breakpoints centrally.

Performance also has been improved, Behari claimed, through changes to the way memory is allocated when deal-

ing with large arrays or third-party COM objects. "For example, if I want to embed an Excel spreadsheet in my application, we handle the cleanup more gracefully when that object is no longer needed, and that benefits performance by as much as 200 percent."

XML is implemented in Team Developer's Table Window, a grid that displays data from any known data source. Now those views can be export-

ed to XML data or schema, Behari said. "With that XML document, you can interoperate with other applications, make changes and repopulate a table window or update a database with those changes."

Behari claimed that version 3.1 also ends dependence on vendor-specific native APIs by introducing a new vari-

able that allows developers to specify a universal data link (UDL) file name or a valid OLE DB provider name without any code changes. Pricing starts at US\$4,995 per seat; upgrades cost \$3,999. ■



Apache running on Linux is becoming the standard, says Gupta's Behari.

'STINGER'

◀ continued from page 1
base access methods.

"There are other ways to talk to a database, but in the .NET world, the Data Provider method is the best and strongest," said Jones. "It strengthens the ties between the application and the database."

The Stinger enhancement also uses Microsoft's Common Language Runtime, which makes it possible to build client and server-side DB2 logic using languages such as Visual Basic .NET and Visual C# .NET.

Developers can use DB2's

stored procedure capability to develop on Windows and deploy the applications on other supported DB2 platforms.

According to Jones, IBM also is working on extending its DB2 integration to include the upcoming version of Microsoft's Visual Studio .NET, code-named "Whidbey."

The cozying up with Microsoft won't detract from IBM's work with J2EE, said Jones.

"It doesn't have any direct implications in terms of our Java support," he said.

"The reality is most organizations that IBM deals with are heterogeneous," said Naiburg,

"We've got to support all those worlds."

The Stinger tools eventually will be included with DB2, but IBM officials did not give a time frame.

The tools were introduced to take some buzz from Microsoft's next version of SQL Server. Jones emphasized that these were available months before the rival database, code-named "Yukon," is scheduled to appear and that DB2 has been demonstrated on 64-bit computers using the AMD architecture.

The software is available at www7b.software.ibm.com/dmdd/downloads/dotnetbeta. ■

Meet the .NET Developer's Boss

It's been 18 months since her developers got their hands on Visual Studio .NET, and they all like what they see. Microsoft's new C# language has taken hold of many of the C++ developers, and while some of the VB programmers are still overwhelmed by the changes, others have quickly adapted to .NET.

And speaking of platforms, her CTO insists that all applications written and deployed on .NET be fully interoperable with the rest of the organization's hosts and J2EE server applications, as well as legacy Windows systems. These days, that means Web services. No wonder she was chosen to chair the company's executive IT planning committee on Web services standards and adoption.

What does she read? Not the code-centric programming monthlies. She needs to know about products, standards, alliances, initiatives, the NEWS and what it all means. That's why she reads *SD Times*.

SD Times

The newspaper for software development managers



LISA Test Tool Does More Automatically

BY YVONNE L. LEE

Consulting service Interactive TKO Inc. this month upgraded the LISA automated testing tool, which it originally released last June, and claims the latest version runs more smoothly and works with more platforms.

LISA, which stands for Load-bearing, Internet-based Simulator Application, is designed to run automated tests of Web services simply by pointing to a URL that contains the service. However, previous versions of the test tool required manual intervention when some Web servers were paired with certain application platforms, said president John Michelsen.

Those combinations include Microsoft's IIS running Apache's Tomcat servlet engine, BEA's Portal Server or IBM's WebSphere; or Apache's Web server running BEA's WebLogic Server, WebSphere or JBoss application server. Michelsen said IIS also had interaction problems running with BEA's Com-

merce Server, which BEA no longer sells.

Interactive TKO has found workarounds so that LISA now works automatically in these combinations.

In addition, LISA 2.0.1 now works with the Oracle Web Server and with IBM's DB2

and Microsoft's SQL Server databases.

The previous version of LISA worked only with Java-based Web services, but LISA 2.0.1 will execute and test .NET services.

The new version also has a built-in TCP monitor for watching network packets.

"Some of the more savvy testers will want to see the actual requests," Michelsen said, adding that such information could be helpful for load balancing.

LISA 2.0.1 is available in three editions. The Workstation Edition costs US\$1,500

per seat. The Server Edition adds a 100-user load testing license and the ability to do unlimited production application monitoring, test scheduling and alerts. Its price, which starts at \$2,500, is based on configuration. The \$995 Project Edition is for users who need to run tests infrequently or on specific projects. It supports 100 simulated "virtual users." ■

NOKIA

◀ continued from page 1

device, it will get put against that platform definition and we will notify developers whether it is compliant."

If a device is not compliant with the new specs, Epting pledged that developers will be informed. "We promise developers that we won't break things [on existing devices] or if we do, we'll communicate that to developers."

The company also unveiled 2.0 versions of its Series 40 and Series 60 devices, more than 30 in all, which she said will henceforth also provide consistent functionality or inform developers to the contrary.

As for 1.0 versions of Series 40 and 60 devices, Epting said issues still exist. "For example, the series 40 and 60 definitions [still use] MIDP 1.0," and will not adopt MIDP 2.0 until they are fully compliant with the Platform 2.0 definitions, she said.

SERIES 80 STAYS

Despite lackluster sales, support will continue for the 9210 and 9290 communicators, Nokia's current high-end devices that use the Series 80 interface. "Nokia is committed to Series 80," said Chuck Chopp, a Nokia product manager. "[But] from the developer platform perspective, it didn't [achieve] the volume, and a lot of the func-

tionality and SDKs will be wrapped into the Series 90 over time." Ultimately, Chopp said, the Series 80 UI style will become a part of the Series 90 platform.

The 7700 and its Series 90 platform spec will be Nokia's most media-savvy to date. The Symbian OS 7-based unit will be built around a 640 x 320-pixel, 65,000-color touch-sensitive display.

Capabilities will include XHTML browsing over TCP/IP; MMS using the Synchronized Multimedia Integration Language (SMIL), a W3C-standard environment for simplified authoring; and digital rights management and client provisioning as specified by the

Open Mobile Alliance industry consortium.

According to Epting, Nokia is betting that such a device will appeal to enterprise developers looking for long-term stability and suitability to task. "As it relates to business applications, Series 90 with its large color touch screen is a future opportunity for corporate developers [building] field-force applications. And IT decision makers want to know they are buying a platform that is not being put to bed six months from now."

Available now, Series 90 SDK for Symbian OS and a MIDP 2.0 concept SDK are free and can be downloaded at forum.nokia.com. ■

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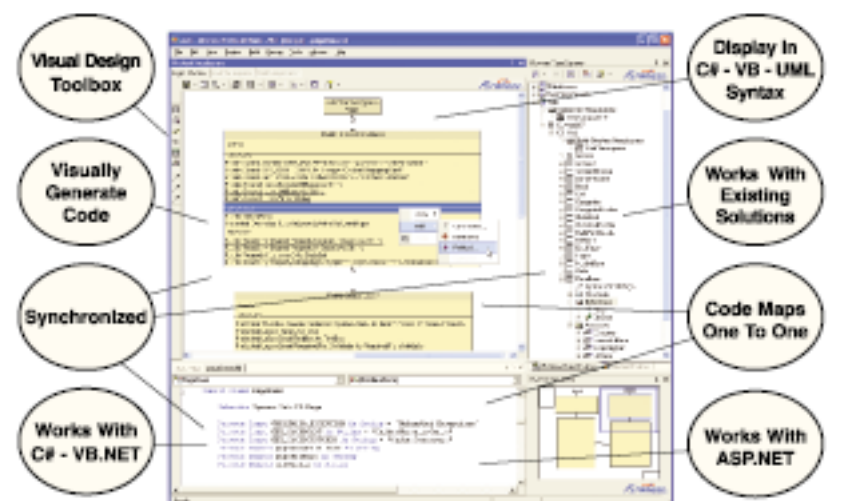
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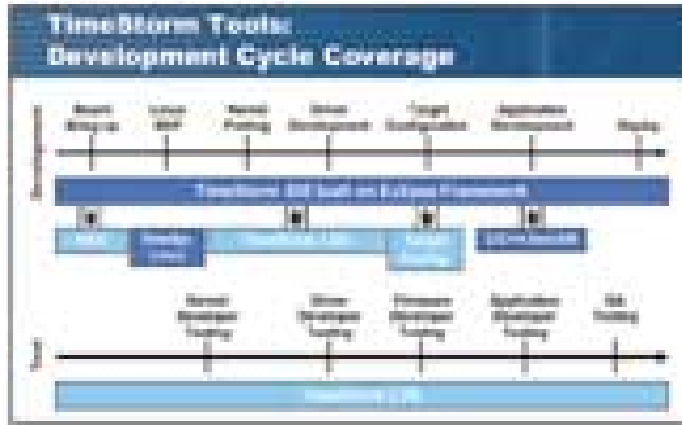
TimeSys Offers Single-Vendor Development Solution

Claims its Eclipse-based IDE is soup-to-nuts for embedded Linux projects

BY EDWARD J. CORREIA

Embedded development with Linux—assembling a distribution and piecing together a tool chain—can sometimes involve a dozen vendors or more. Linux developer TimeSys Corp. claims to cover all bases with the Nov. 3 release of a series of enhancements to TimeStorm IDE, its Eclipse-based C/C++ and Java tools. The company says it now offers the only single-vendor development solution with everything necessary to port, bring up, optimize and validate an embedded Linux design from any distribution.

According to TimeSys CEO Larry Weidman, the embedded Linux development tool landscape has until now been filled with voids. “You get board bring-up tools from one vendor, JTAG debugging to get the OS running on specific hardware from another, and you get other point solutions around vendor- and hardware-specific Linux BSPs. There are different tools to configure the file system, different tools to configure kernel parameters, and others to develop, profile



TimeSys' LVS suite includes tools for each phase of embedded development.

and debug apps,” he said.

In addition, many of the tools fail to address changes to the kernel made by developers, said Mike Bauer, vice president of products. “We see tools that allow people to work around the kernel as a monolithic whole. The biggest problem is how to test and validate changes you make to the kernel, drivers or application. Up to this point they have had no tools to help them validate that the changes they made work.”

TimeStorm Linux Validation Suite (LVS) does this, Bauer said. The extended version of the TimeStorm IDE

adds a combination of testing applications developed by TimeSys and about 1,150 other test modules from the open-source Linux Test Project, wrapped around a customizable automated testing framework that Bauer claimed “makes it easy enough so that developers can test their code as they go. If they modify the kernel, device driver or application in a certain way and they want to validate that certain change, they can develop a custom test just for that.”

The framework also includes fault handling, test management and reporting,

and permits tests to be shared with other developers or QA people, he added.

Also new is TimeStorm Linux Hardware Debug (LHD), an optional component that incorporates the BDI2000 JTAG hardware debugger from Abatron AG, based in Switzerland. “This assists in board initialization and hardware debugging,” Bauer said. LHD also works with Wind River’s visionProbe II hardware debugger, he added, as well as other tools. “Anybody’s JTAG debugger that uses [GNU’s] GDB 5.2 or higher should work seamlessly.”

Completing the trio is TimeStorm Linux Development Suite (LDS), a US\$1,000 option that Bauer said includes tools and documentation to aid developers with porting and deploying Linux to their custom hardware and with building drivers. “This supports Linux kernel development from the ground up with tools, reference BSPs and

drivers, and how-to guides developed by TimeSys Linux developers.”

Bauer said that the three modules offer a completeness untouched by competitive tools such as Metrowerks’ recently released Platform Creation Suite. “Metrowerks provides good tools for taking in a kernel, configuring a root file system and kernel parameters, compiling and downloading to a target. The missing step is porting and driver development. As soon as you do that, you no longer know if you have a valid BSP and whether changes you’ve made will work. We provide that validation plus porting and target configuration.”



Other tools don't test changes made to the Linux kernel, says TimeSys' Bauer.

Available now for Linux hosts, TimeStorm LVS costs \$6,000 per seat and includes the TimeStorm IDE. Available now for Linux and Windows, the LHD plug-in costs \$2,380, and the LDS plug-in costs \$1,000. TimeStorm LVS for Windows is expected later this year. ■

KnowNow Aims to Simplify Data-to-Device Transfers

BY EDWARD J. CORREIA

Extract-transform-load tools might be overkill for extending real-time enterprise data to mobile devices. That's the opinion of Ron Rasmussen, vice president of engineering at infrastructure solutions developer KnowNow Inc. The company in late October released LivePDA, a version of its HTTP publish/subscribe system that it claims simplifies real-time updates of data from enterprise apps to mobile clients running Microsoft's Pocket PC.

“ETL and EAI usually have lots of data they are trying to push and transform between systems,” said Rasmussen.

“We’re saying you don’t need all that data. You really just need a couple of pieces of key information to be published.”

Rasmussen described what might be a typical development scenario using the LivePDA object model, which he said is delivered as libraries for most major development environments. “Developers simply decide what data they want to publish from which application. Let’s say you want to make data from a PeopleSoft app available. You would use the PeopleSoft API to get that piece of data.”

Then, using the LivePDA’s publish API, the data is replicated and published as a URL

on the system’s HTTP server.

“Anytime that data changes, we send that changed data asynchronously to any [user or application] who has subscribed,” Rasmussen continued. Applications subscribe through language-binding APIs or through an Excel plug-in.

According to Rasmussen, the tool is almost as simple to use as an HTTP post. “We take data out of proprietary applications and systems and make it universally available to just about every end point we could think of. And developers don’t have to understand the intricacies

of a C++ API.” Predeveloped data-push connectors are provided for ActiveX, C/C++, Excel, JavaScript, .NET and Pocket PC.

Available now for Linux, Unix and Windows servers for US\$15,000 per server processor, LivePDA consists of the

LiveServer HTTP and events routing server and LivePDA libraries that work with Borland and Microsoft IDEs and GNU compilers. Developers may download a full version of the software for a free 30-day trial at www.knownow.com/support/downloads.shtml. ■



EAI and ETL tools pump too much data, says KnowNow's Rasmussen.



LivePDA applications use URLs on KnowNow's HTTP server to keep data current.

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Show Us the Interoperability, Say Developers



WS-I Basic Profile's end results are more important than the means

BY YVONNE L. LEE

While vendors and analysts tout the value of Web services standards and the Web Services Interoperability Organization's Basic Profile, real-world developers are replying, "Just make Web services work."

WS-I's Basic Profile is a set of guidelines for building compatible Web services. Specifically, it expresses unambiguous details about a service's WSDL files, how the functions are called and what the service returns, as well as descriptions of the SOAP messages that access the service. These are XML messages that tell which services are being addressed or have been addressed, the variable values and the specific value that is returned.

The underlying programs are written in another language, usually Java or a C variant. Because these other intermediate SOAP and WSDL files get communicated, Java Web services can call information from Web services that use Microsoft Corp.'s .NET Framework, and vice versa, but only if the WSDL and SOAP messages are written in an expected common format.

WS-I has attempted to remove any ambiguity from how these files can be made, guaranteeing interoperability among Web services, regardless of the platforms on which they are built or the servers that run them.

Developers say they want this interoperability promised by various vendor consortia, including the WS-I, but they don't want to bother keeping up with standards themselves, or learning what they mean.

"We don't have the bandwidth to stay on top of all the standards, but it's definitely important, especially in security,"



said Jeff Davis, senior architect at Irvine Technology Corp., a custom software developer and network integrator. He said that when his company was looking for an application server for a Web service that would pass insurance premium information to its clients' customers, the purchasing decision rested on two things: performance and compatibility with the clients' customer applications.

His company looked at the Apache Software Foundation's open-source Axis SOAP implementation, Systinet Corp.'s WASP Server for Java, and Microsoft's .NET tools and servers. It ended up choosing Systinet because it was faster than Axis, he said, and because many of its clients' customers used Java for their applications. However, he added that WASP appeared to be able to bridge with .NET applications as well.

"We bought Systinet because we hoped they would stay on top of those things," he said. "My hope is by buying a commercial platform, we won't have to stay up on standards."

It's not that his company doesn't care about vendor interoperability efforts, Davis said, but that it has left it up to vendors to sort out the issues.

"It's definitely important that they conform," he said. "We're putting a lot of the onus on them."

Avant Garde Business Solutions GmbH chief technology officer Alf Eckardt said he had not even heard of the WS-I's effort.

"We have not been concerned with this organization until today," he said.

Nevertheless, the IT consulting firm, which specializes in Web services and Web services security, uses the ingredients of the WS-I Basic Profile as it attempts to build interoperable applications, Eckardt said.

"If we talk about Web service interoperability, we talk about WSDL," he said.

Other developers said they cared about interoperability and were exploring the profile, as well as the standards themselves, as a way to achieve that interoperability.

"We're about three to four months away from supporting Web services in our products," said Keith Rodricks, director of engineering at Active Decisions Inc., which makes Internet software that helps Web site visitors decide on appropriate products. The company already uses XML as a common data for-

mat with its customers, which include Amazon.com Inc., Bank of America Corp., CompuUSA Management Co., Hewlett-Packard Co., Staples Inc. and Yahoo Inc.

"It's really right now in the knowledge-gathering stage," Rodricks said. "We do take in catalogs in XML. Now, we're looking at the SOAP stack."

Rodricks said staff members have been attending trade shows and conferences, such as Web Services Edge in Santa Clara, to become familiar with which specifications were important.

THE 'COMMON DENOMINATOR'

As more vendors release compliant tools, meeting the WS-I's profiles may become a checkpoint to assure a level of interoperability, said Rodricks. "It seems that [WS-I's Basic Profile] would be the most common denominator."

It's more than a checkpoint for Matt Sanchez, chief architect at Webify Solutions Inc., which makes Web services that communicate medical and payment information among health-care providers and insurers. "For us it, it's sort of a checkmark, but it's also very helpful

► continued on page 21

THIRD OF A THREE-PART SERIES

Oct. 15: How WS-I's Basic Profile and its tools are trying to make multivendor, multi-platform interoperable Web services.

Nov. 1: Are vendors implementing the Basic Profile?

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INTEROPERABILITY

◀ continued from page 19

because you can make certain assumptions about the application.”

Those things include the structure and content of the WSDL files and how the SOAP messages are exchanged. Having that common content helps him craft his applications to make appropriate requests, he said.

If any industry has taken to the WS-I, it's health care, which requires communication and accountability between providers and insurers, thanks to requirements for electronic transactions and code laid out in the Health Insurance Portability and Accountability Act of 1996, said Dewayne McNair, technology director at Memphis, Tenn.-based Remit Data Inc.

“What our services do is, let's say a specific health-care provider is making submissions and interacting with Medicare and Medicaid,” McNair said. “We'll take the payment data, analyze it in terms of denial rates, and create benchmark reports. Then we provide advice to our customers on where they can put their effort on recouping the denials. Well, where we're using our Web services is to open up our core system that provides these services.”

His application will have to interoperate with clients' applications running on various platforms and servers, he said.

At the same time, however, he's relying on tool manufacturers to make sure his services produce messages that meet the Basic Profile requirements, he said. “The tools on the server side would be responsible for handling a spec-compliant message. Hopefully, that's the goal and the hope that that will be the case. We're using industry-standard tools to build our services. The hope is they are compliant. When we start integrating with our business partners, everybody will be on the same page.”

In fact, health-care application developer Webify already is making sure its own applications comply with the WS-I Basic Profile as one of its regular tests.

“We use it as kind of a checkpoint in the [quality-assurance] process,” said chief architect Matt Sanchez. “All of our Web services are WS-I Basic Profile 1.0 compliant. It's one of the things we test in our test cycle, and it's something we have committed to as a company.”

LOOKING AHEAD TO SECURITY

Sanchez said he is anticipating the group's work on interoperable Web services security.

“WS-I's also working on a security profile, which is also going to be useful. There are a lot of open-ended things in WS-Security,” Sanchez said, referring to the specification submitted to OASIS by

IBM Corp. and Microsoft in April 2002.

By taking on the security profile, WS-I would remove much of the ambiguity involved in how Web services exchange security information, just as the group removed the ambiguity involved in passing queries and results from one service to another, he said. “There are multiple right ways of doing things. Of the 10 right ways of doing things, they'll say we're only going to do one. You won't have to support 100 different ways of authentication; you'll have to support only five.”

If there has been any technical hindrance to developers' paying attention to the Basic Profile, it's that a good portion of Web services today encode SOAP messages using the remote procedure call method, and the Basic Profile requires the document literal method of encoding, said Darren Knipp, group product manager for Interwoven Inc.'s Web services toolkit.

In addition to making toolkits, Knipp's group at Interwoven makes a portal kit that runs as a Web service, getting information from other Web services. The application, which was developed before the WS-I published its Basic Profile in August, works with both J2EE- and .NET-based services. He said it would have been easier to develop and test the product with the Basic Profile, but that the company's customers are satisfied with the product as it is.

“With our customers, where they are, they're happy to have the set of interfaces that they have,” he said, adding that the company planned to rewrite the software according to the WS-I Basic Profile's guidelines.

Active Decisions' Rodricks said he believes his company will have an easier time building compliant Web services because although the messages are exchanged in XML, they are not Web services. When the company does convert its applications to Web services, the programming staff will develop compliant applications from the start, he said, adding that he did not believe much programming would be involved to migrate the current applications and release them as Web services. “It's just a matter of layering something on top,” he said.

Even companies that aren't looking into WS-I's Basic Profile are sold on the concept of interoperability.

“I think that's something that must happen,” said Guido Burchartz, sales and consulting engineer at Avant Garde. “Web services will grow in a quick way in the next one to three years.”

According to Irvine's Davis, “The product we choose is going to have to be compliant. It's not important such that we have to be concerned with the plumbing of it.” ■



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EDITORIALS

Windows + .NET = WinFX

To nobody's surprise, Microsoft will be deeply embedding its .NET Framework and Common Language Runtime into the next version of Windows XP, code-named "Longhorn."

Microsoft has a well-known penchant for introducing add-on technologies and then incorporating them into either Windows or Office. Most of the time, such add-ons have been of dubious consumer value, and have either wiped out competitors, or at least stifled innovation. From screen savers (remember the flying toasters?) to backup software to disk defragmenters, everything eventually ends up in Windows. And in the case of the Web browser, that integration ended up in court.

The transformation of the .NET Framework and CLR from an add-on virtual machine to a core operating system feature, called WinFX, does not fall into that same anti-competitive category. The expansion of the managed runtime environment's reach is reasonable, and (assuming the software is secure and bug-free) should be a boon to both consumers and developers—without threatening competitors. It's not an abuse of Microsoft's monopoly power.

What about Java? Unless Microsoft does dirty tricks to "break" the ability of Java Virtual Machines to run on Windows desktops or servers, there is no conflict. While Microsoft is fully within its rights to focus on WinFX, there's no reason for consumers or systems administrators to be forced to choose between using CLR or using a JVM. Unlike browsers, word processors or disk backup utilities, where you only want to use a single instance of a specific application category, competing virtual machines should be able to run in parallel—and invisibly to system users.

And while it's likely that JVMs may need some UI code tweaking to work with Microsoft's new "Avalon" graphics subsystem, it is hoped that the folks in Redmond will cooperate in that venture, or at least refrain from throwing roadblocks in front of that effort, lest they end up back in court again.

The 'Yukon' Challenge

The bigger anti-competitive challenge presented by Microsoft may actually be on the database front, rather than in the classic Java versus .NET wars.

"Yukon," the successor to SQL Server 2000, will also contain tight coupling with the .NET Framework; it will include its own instance of the Common Language Runtime, for example. Pieces of the Yukon code also are going to work their way into "Longhorn," as part of the operating system's new "WinFS" storage subsystem. It is not clear how much of WinFS will work its way into the next Windows server update, or what its tight coupling with Yukon will mean for other enterprise database systems, such as DB2, Oracle or Sybase.

That doesn't mean that the database vendors are going to roll over, however. IBM, for example, is fighting back by offering a native ADO.NET Data Provider for DB2. Plus, the cross-platform capabilities of all the other enterprise databases will ensure that they maintain a strong competitive position against the Windows-only SQL Server product family. ■

GUEST VIEW

HELP WANTED: NO SPECIAL SKILLS REQUIRED

When I first began buying hardware many years ago, the checkout stand was manned by a person in an apron who had to look at the price on the sticker, accurately enter that information (along with the department key), look up the sales tax and then ring it all up, just so I could purchase a hammer, several boxes of nails and a tool belt.

Then along came the UPC code and electronic scanners. Now those specialized skills were replaced by the ability to aim the bar code properly at the laser detector and accurately hit the total key. Everything else was automated.

The other day when I stopped at my local home improvement store, an amazing phenomenon had occurred. Gone were most of the checkers in their snappy aprons, replaced by automatic checkout lanes. If I chose, I could aim the bar code at the scanner myself, ring up the total and pay for it with my credit card—all without the intervention of any store employee. Technology had replaced the need for the checkout specialist for simple purchases. Only a few were left to assist with more complex purchases, such as cases where you had a lot of open-stock items like floor tiles, or where expert help was required to make a decision.

The reason I tell this story is that the IT world is going through a very similar transition right now. New technologies such as Web services and service-oriented architectures (SOAs) are making it possible to change the way IT applications are being developed. They're allowing all sorts of applications, or services, to be created and shared throughout the organization without requiring specialized IT skills beyond the ability to use a spreadsheet. With an understanding of the business needs, and a willingness to take on challenges, business managers and other knowledge workers can create many of their own solutions.

The driving force behind this phenomenon is the birth of the IT-savvy organization—one in which nearly everyone in the organization is comfortable with technology and capable of using it beyond rote tasks.

Consider what happened when PCs were first introduced into the general work force. Executives and secretaries used to working on typewriters started creating letters and other documents on their PCs exactly the way they were shown. (Of course, many couldn't break the habit of hitting the carriage-return key at the end of a line!) If they wanted to perform a mail merge, though, they either had to attend a half-day class, or call someone from IT to set it up.

Today, most users teach themselves everything from creating complex spreadsheets to developing personal Web sites to constructing data queries, and learn to perform more difficult tasks through trial and error. They are comfortable with technology and depend on the tools to help them complete the task without IT intervention.

But in the bigger scheme of things, these user-driven applications fall apart because they're driven by and for a single user. Going back to our mail merge example, if 15 people in the organization need to perform mail merges, and they don't speak to each other on a regular basis, the odds are the organization will pay for the same job to be performed 15 times. That's hardly the model of efficiency technology is supposed to enable.

Service-oriented architectures allow these individually developed services to be shared across the enterprise, either separately or as an element of a larger service. The concept is similar to the way a traditional application is developed. Most traditional applications are really a collection of small, task-oriented applications that are rolled up into a single piece of software and given a name.

The difference is that with a traditional software app, you have to wait until all of the individual pieces are tested and debugged before rolling it out whole and complete. In an SOA environment, individual services are created, tested and rolled out as their functionality is needed. They're then made accessible to the entire organization; in fact, they're designed

to "listen" for opportunities and make themselves known to users who may have a need.

Currently, all of this is still done through writing code. Which means the organization can move as quickly as its IT department has resources to devote. This is made worse



**JONATHAN
SAPIR**

by the need to have programmers with the right programming skills (Visual Basic, Java, C++) for the particular project at hand. In the meantime, the organization is losing time, money or most likely both

because you don't have the resources to create a relatively simple application.

The next step is to allow developers who understand the business issues to develop and deploy solutions without having to write the underlying code. Besides the obvious savings in time, this eliminates the need for knowing a particular programming language. If they have the right level of business knowledge, anyone with programming skills can be assigned to the project. Once they understand the Web services and SOA platforms (a simple task for people with programming skills), developers can move through a variety of projects with ease.

WRITING ON THE WALL

Just as the advent of the bar-code scanner caused significant changes for people in the retail industry, so will SOAs and Web services for IT personnel. Going back to our example of the home improvement store, midlevel (journeyman?) coders are the clerks in this equation.

Still these technologies do make jobs easier, the way scanners made the clerks' jobs easier; they also pose a long-term threat. Those who are midlevel coders need to see the hand-writing on the wall, and either learn how to create the scanners (build the complex, specialized building blocks) or move onto the floor and learn how to sell plumbing fixtures. Because for many development chores, the days of self-service, no-special-skills-required IT are just around the corner. ■

Jonathan Sapir is president of InfoPower Systems Inc.

COMPETITORS STRIKE BACK AT OFFICE 2003

Editor's note: A few days before the release of Microsoft's Office System 2003, the public relations firms retained by Oracle Corp. and Sun Microsystems Inc. sent us unsolicited bullet points, competitive positioning and canned quotes disparaging the new software. We thought you'd enjoy seeing their verbatim, but far from dispassionate, observations.

ORACLE'S PERSPECTIVE REGARDING MICROSOFT OFFICE SYSTEM 2003

Desktop productivity tools should not drive a company's enterprise information architecture and collaboration strategy.

- **Fragmented Solutions:** Microsoft Office System is a collection of products and services that require separate purchases and run on different servers and systems. Oracle Collaboration Suite provides an integrated suite of products that run on a single infrastructure—each with their own data stores and administration tools.

- **The Right Architecture:** While Microsoft plans to eventually move Exchange to a database-driven architecture, they are two-to-three years behind Oracle Collaboration Suite. In the meantime, Exchange customers will continue to invest dollars to adapt to Microsoft's ever-changing platform.

- **Hidden Costs:** Independent research proves that Oracle has lower messaging TCO than Microsoft—including planned and unplanned downtime—due to hidden data center costs when dealing with multiple Exchange Servers.

STATEMENT:

"Microsoft has strong feature and functionality capabilities on the desktop, but an extremely fragmented approach to servers that are needed to support collaboration across the enterprise," states Sunir Kapoor, vice president, Oracle Collaboration Suite. "Consolidation of servers, data and multiple applications improves security, reduces total cost of ownership and increases user productivity. At that end of the day, new features on the desktop will mean nothing if the information is unavailable or at risk."

SUN'S TOP 8 REASONS STAROFFICE PROVIDES GREATER ROI THAN MS OFFICE 2003

1. **Lower cost.** For current Microsoft Office users, StarOffice's lower license fees more than pay for the cost of migration. Add to that ongoing savings, and StarOffice offers ROI over time that is well above Microsoft Office.

2. **Familiar Look and Feel.** StarOffice looks and feels very much like Microsoft Office, with a rich graphical user interface, intuitive menuing structure, and integrated applications. For the vast majority

of StarOffice users, productivity levels are indistinguishable from MS Office.

3. **More innovation.** StarOffice takes advantage of a community-based development model that is fundamentally more innovative than Microsoft's command-and-control-oriented model for Microsoft Office. An example of the benefit that accrues to customer is the industry-standard XML support included in StarOffice 6.0 and in StarOffice 7. Microsoft Office 2003 will include a proprietary XML schema.

4. **Mainstream Focus.** StarOffice is a rich and integrated desktop productivity suite, designed to fully serve the needs of mainstream business users and sold at a reasonable price. In contrast, Microsoft Office has evolved from a suite of personal productivity products to a more comprehensive and integrated system; most users don't need all the features it provides.

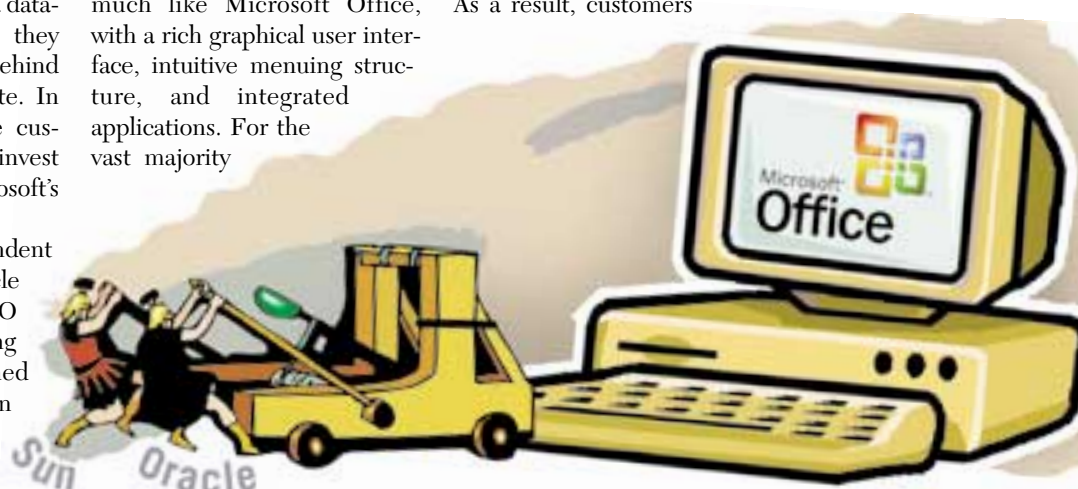
5. **Compatibility.** StarOffice reads and writes Microsoft Office file formats seamlessly. As a result, customers

can align desktop software investment with business priorities; those few power-users who need MS Office can have it without the entire organization bearing the cost of unneeded functionality.

6. **Better Security.** The seemingly constant alert-patch-clean-up cycle that Microsoft Windows and Office customers go through reduces user productivity and increases IT support costs through wasted time. The damage done to information assets further reduces ROI by increasing business risk.

7. **No Lock-In.** StarOffice supports open standards such as XML so customer investments in hardware and application software are protected and customers are not locked in to a single vendor's ability to execute and reliably innovate.

8. **No Software Audits.** Because StarOffice is priced per employee, customers are saved the time and expense of software audits to assess IT liability. Our trust-based model also means we are not given an incentive to install proprietary DRM-based enforcement mechanisms that can add cost and complexity to doing business. ■



LETTERS TO THE EDITOR

WHAT'S THE SOURCE FOR IP?

In his column "SCO: Tip of the Iceberg?" [Oct. 15, page 28, or at www.sdtimes.com/cols/middlewatch_088.htm], Andrew Binstock asked the question: "Who else's private intellectual property is in Linux, or potentially other open-source projects?"

He really should ask, "Whose closed-source software products contain open-source intellectual property in violation of the GPL or other OSS license?"

The only reason that open source is the subject is because

open source is out there for closed-source vendors to examine for usages of private IP, whereas closed source isn't. Likewise, open source is out there for closed-source vendors to misappropriate for their own use. I would submit the risk of IP violations is much higher with closed source.

Dave Howard

Sierra Nevada Corp.

MICROSOFT BOOSTERS

Larry O'Brien's column ["No Reservations About .NET," Oct. 15, page 28, or at www.sdtimes.com/cols/winwatch_088

.htm] will surely get your periodical more advertising dollars from Microsoft.

Joseph Marra

Great story. Very timely. While I usually prefer to work with Java tools, .NET keeps the Java world on its toes by delivering very productive solutions in certain areas.

David Vydra

EQUAL OPPORTUNITIES

The story ["Looking from 'Whidbey' to 'Orcas,'" Aug. 15, page 1, or at www.sdtimes.com/news/084/story1.htm] is okay. But my opinion is that Microsoft should put salary

regulations in their certifications and try to create equal opportunity for programmers from Third World countries. In Third World countries there aren't good industries, which could offer someone like me the best programming challenges.

Felix Odhiambo

Somak Nairobi Travel

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IS INFOPATH THE NEW EXCEL?

InfoPath, one of the new client applications in the Microsoft Office System 2003, is a tool dedicated to designing and filling out XML-based forms. As you might suspect, if you've ever accessed a database from Word or Excel rather than Access, Office doesn't force you to use InfoPath to skin this particular cat, but InfoPath is certainly the most flexible and has some impressive features, including the ability to auto-generate a form from data sources such as W3C XML Schema, a relational database or even an example XML document. So why is InfoPath so frustrating?

InfoPath generates neither ASP.NET or HTML pages nor stand-alone executable programs. Nor does it even save the form in an XML format: InfoPath form templates are binary files (keep reading for the surprising twist, though!). There is no freely redistributable InfoPath viewer or browser plug-in. To use an InfoPath form, you must have a copy of InfoPath installed. InfoPath has a stand-alone list price of US\$199.

The common wisdom is that forms are created rarely and filled out often. Moreover, the common wisdom is that forms flow along the connectors of corporate org charts—a division creates a set of forms to support its processes, a fiat to use the forms comes forth from management, and the forms are filled out by all. The first use of InfoPath in an organization requires the purchase

of InfoPath by everyone required to use the form. But which departments does common wisdom promote as most interested in automating forms? Human resources and accounting—departments that are unlikely to embrace side-by-side processes, one for those with InfoPath installed and one for those without.

So, if the common wisdom is true, InfoPath's licensing model doesn't make sense. Or, more accurately, if the common wisdom is true, InfoPath's success depends on the need for InfoPath to be so overwhelmingly obvious that companies will happily pony up significant amounts of money so that InfoPath gets on virtually everyone's computer as rapidly as possible. I don't see that happening.

But what if the common wisdom is wrong? Once upon a time, it seemed equally obvious that number crunching was a formalized process that flowed hierarchically through the organization. The computerized spreadsheet proved how wrong that wisdom was, arguably transforming business more than did the Web browser. Will the ability to create and distribute digital forms be as important as the ability to create and distribute spreadsheets? Is InfoPath the new Excel?

It would be easier to say "yes" if InfoPath were programmable from

.NET languages. Not so. For some reason, InfoPath's programming model uses Microsoft Script Editor, which supports only JScript and VBScript. I'd be the first to applaud if Microsoft promoted scripting languages as a steppingstone between the world of power users and programming in the same way that macro languages were a steppingstone for many users in the 1980s. But Microsoft is not promoting such a message, and, in fact, the transition from MSE programming to .NET programming is not a simple step.

OK, so maybe InfoPath is not the new Excel. Perhaps it's the new PowerPoint, an application that doesn't really perform any significant computation, but is such a significant packager of information, that it becomes a business necessity for almost everyone. Well...maybe. As I said in my last column ("The Joy of XML," Nov. 1, page 36, or at www.sdtimes.com/cols/winwatch_089.htm), the power of XML extends far beyond enterprise integration concerns; maybe workgroups of all sizes will find themselves cranking out forms to help structure and control processes both large and small. This is possible, but it hardly seems a sure thing.

And heck, if PowerPoint is the analogous application, then it's fair to point out that PowerPoint has a stand-alone viewer and can export presentations to the Web. There's something distinctly strange about an application dedicated

to manipulating interoperable data being the least flexible Office application in terms of output formats.

But now for the twist: As stated earlier, InfoPath saves its forms in a binary format, with an "XSN" file extension. The twist is that this format is, in fact, the familiar Microsoft CAB format with a handful of XML files inside. So the output of this new tool is available for programmatic manipulation, but far from the way that formulas and macros make the power of spreadsheets casually available, spelunking inside InfoPath form files is only for the stout of heart. No revolutionary power-user capabilities here.

In the end, most people are going to look at InfoPath and see neither fish nor fowl, neither a developer tool for creating redistributable solutions nor an end-user tool for creating business documents. The feature set argues for the former, the licensing says the latter. Those with generous views toward Redmond will expect a flowering of capabilities in the second and third versions, and I'm going to bet that a redistributable form viewer and data editor will appear as soon as Microsoft loses a couple of insurance companies or federal agencies to Adobe. But for now, I think InfoPath is going to be the road not taken. ■

Larry O'Brien is an independent technology consultant and analyst, and the founding editor of Software Development Magazine.

WINDOWS & .NET WATCH



LARRY O'BRIEN

SPEED FOR THE COMING DATA WAVE

During the wild days of the Internet bubble, companies were fond of referring to "Internet time," a term that has all but disappeared from today's vernacular. Internet time referred to very fast product revisions and releases because of competition somehow foisted on vendors by the presence of the Internet.

Actually, if this pressure really existed, it was created by the Web (and its ability to provide instant product comparisons), rather than the Internet per se. As time passed, the term acquired a wider meaning that referred to the need to do everything rapidly. At many sites, speed was more important than any other virtue.

Even software development—with its newfound agile methods and Extreme Programming—was catching on to the spirit and certainly the terminology of the times.

When the bubble burst, the pressure to accelerate everything dissipated quickly. Investments and the Zeitgeist turned to other matters like spam and security. Performance à la Internet time was nowhere on the radar screen. Evidence suggests, however, that speed may be making a comeback. It's showing up again in messaging infrastructure in response to expected surges in data volume.

Whence comes new data? I expect several trends will cause a lot more data to be pushed throughout enterprise plumbing. The first trend is the increased generation of real-time data. This will come from two sources in particular: RFID and GPS.

Radio frequency identification (RFID) is expected to track individual products next year at large retailers, grocers and the military.

As RFID rolls out, the amount of data arriving at the edges of the corporate network will increase. At certain points, it will surge. Several companies, including Sun, are developing software to clean this data by filtering out noise and aggregating what remains. But even this aggregated data will be constantly updated and changed as applications will become dependent on knowing in real time exactly how many items are in stock and precisely where they're located in the warehouse.

Moreover, it's highly likely that companies will want to keep the raw data for short periods for purposes of audit and analysis. As new as-yet unforeseen uses of RFID are developed (I expect they will proliferate), this data will increase in vol-

ume and its retention period will expand.

The second major data source is real-time global positioning systems, or GPS. Companies are increasingly using positioning data to monitor the movement of trucks, vans and all forms of mobile equipment. This data is generated by more and more items, and I believe companies will find value in keeping it, rather than discarding it. It will, for example, provide audit trails and security information of value. Like surveillance and security tapes at banks and retail establishments, this data will be saved for a predefined period before being discarded. For this to happen, it will need to travel along the enterprise infrastructure.

Voice over IP, or VoIP, is another rich source of data flows to the extent that this data touches the company infrastructure.

The actual data from these sources is likely to be large, because it will increasingly be formatted as XML, which is about the most verbose means of expressing data values.

Not surprisingly, middleware vendors, who have recently been focused on integration, are beginning to push their faster, enterprise bus technologies.

Sonic's SonicMQ has the mind-share lead in this regard and is battling with

TIBCO over benchmarks Sonic published in a white paper that's still available on its Web site. While TIBCO is one of the few vendors to be working specifically on the question of handling RFID data, it's still relying on its longstanding messaging middleware technology. It appears that none of the technical wizardry of the lightning-fast Talarian product it acquired will make its way into the company's future releases, alas. Fiorano's middleware has always been speed-oriented and has recently been emphasizing scalability via its Tifosi integration software, by which greater volumes of data can be run through the system. WebMethods is working on technology to integrate RFID with back-end systems.

Curiously, not all middleware vendors are preparing for this issue. JMS vendor SpiritSoft, for example, is not attacking this problem, as it does not foresee this surge of data in its primary market (financial services). Perhaps SpiritSoft and other vendors will have the luxury of time in this particular niche. I am not sure. However, it seems unarguable that the wave of new data, consisting mostly of real-time items, will make its way throughout enterprise plumbing. And IT departments will need to be ready for it. ■

Andrew Binstock is the principal analyst at Pacific Data Works LLC.

INTEGRATION WATCH



ANDREW BINSTOCK

NEW MOBILE JAVA OPPORTUNITIES

Sun has announced a new Java Mobility Advantage (JMA) Program, which sounds like it might do well, very well, for mobile Java developers, carriers and others in that ecosystem.

JMA is an end-to-end program to help all the participants—mobile operators, carriers and handset manufacturers—speed up time-to-market for mobile Java applications. That should make it much easier to sell J2ME-based programs. Even more important, it opens doors for J2EE developers to create management, content management and billing applications for mobile carriers.

One of the problems that the carriers have had with Sun is that they want a complete system, preferably one that will fit with their existing systems, that will give them soup-to-nuts control of not just applications on Java-enabled phones, but overall management and billing. That's exactly what JMA seeks to provide. This framework of services, aimed straight at carriers, should lead to a vast increase in Java work.

After all, if Sun's claims that 120 million Java-enabled handsets have shipped are accurate, that's a market that will keep developers busy for years to come.

The biggest technical news for developers is that Sun released the latest Content Delivery Server 3.6, formerly the Sun ONE Content Delivery Server. (Before I talk about that: Sun, would you stop renaming your products and projects at the drop of a hat!)

Based on the sneak peeks I've gotten, the Content Delivery Server looks like what a wireless carrier would want—it can handle all kinds of content. This is vital since now no one really knows what formats are going to win consumer's interest. The Content Management System looks as good as any I've seen, and it's certainly better than the other wireless carrier content management systems I've seen to date.

Sun also promises a Digital Rights Management system. Do any of these really work without annoying the heck out of customers? Sure, it's politically correct to have this kind of stuff, even if, in the end, users can bypass it easily as they hop over BMG and SunComm Technologies' copy protection scheme by pressing a shift key.

In addition, Sun announced the Java Device Test Suite, a set of more than 4,000 tests for Java-based devices.

I don't know if we need 4,000 tests, but after having spent time with embedded operating systems like Symbian and Palm OS in the past few months, I'm all in favor of anything that gives me a better chance of putting code on a machine without finding midway through coding or quality assurance that the blasted handset can't support some small but essential function.

Sun also is adding Java Content Testing to the Java Verified testing program. I'm not sure how useful getting a mobile application verified will be to most J2ME developers. Most of the nonenterprise embedded developers I know dream about writing a hit game for handsets but end up making ends meet by writing one-up

vertical applications, such as a warehouse inventory system, a mobile trouble-ticket data-entry system and so on—each application customized to a particular customer's needs. For developers in this line of business, I just don't see the value of having any given application being Java Verified.

What I do think will make the biggest difference, though, hasn't a thing to do with technology. It's the Developer Network Mobility Program. The idea here is Sun will help carriers

create in-house developer programs and recruit developers, along with some comarketing and cobranding possibilities.

I see two hurdles Sun must clear for this to work. The first is that it has to encourage closer relationships between current J2ME developers and carriers at the same time. If Sun's goal is to cut out the middleman of independent J2ME developers, it can't possibly work. Some in-house J2ME expertise will help the carriers, but it takes years to make a good J2ME programmer. In-house staff's job, at the carriers, will be to bridge the often-daunting understanding chasm between J2ME programmers and telecomm engineers.

The second problem Sun must overcome is a very basic one. This program has to be properly funded, which, given Sun's latest financial situation, may be a problem. You can't run a developer program like this one on good wishes and duct tape.

It's only if Sun seriously commits resources to its Developer Network Mobility Program that it has a serious shot at success. ■

Steven J. Vaughan-Nichols is editor of *Practical Technology* (www.practical-tech.com) and has worked as a programmer for NASA and the Dept. of Defense.

JAVA WATCH



STEVEN J. VAUGHAN-NICHOLS

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KNOW-IT-ALLS

The folks over at IBM are working toward the modest goal of collecting all the information in the world. All the information in the world. And to think the very highly regarded New York Times settles for merely all the news that's fit to print.

That's the premise of IBM's Web-Fountain initiative, which already has half a petabyte of information in the form of Web pages, chat rooms, blogs and a lot of other unstructured bits and pieces. "We want to go up to a petabyte by May," said Dan Gruhl, the project's chief architect. (For those of you scoring at home, a petabyte is 1,024 terabytes.) "It's the power and the AC that are the real headaches. Otherwise, it's actually quite doable."

The point, he said, is to make all this information available to marketers to help them better target potential customers, to help companies with their recruiting, to help doctors treat their patients. In fact, Gruhl said, there are many different applications for the information, once it is gathered and made available.

For instance, IBM can collect the threads from a college-age chat room where the participants are discussing a particular band, and that data could be used by a record company to time the release of the group's next disc. Or, a pharmaceutical company could get an early idea of doctoral candidates' theses and be first in line to offer a job if there's a match.

Gruhl told of an instance when his team was looking for terms related to safety among oil companies, perhaps trying to track workers hurt on offshore rigs, or tanker crashes and spills,

when they saw a spike in discussion of the topic from the Midwest. Curious, as there is not much drilling or shipping there, the team bored down into the information to find that people in a chat group were complaining about being robbed at a particular company's inner-city gas stations. Gruhl's team forwarded the information on to the oil company, which instituted new policies

INDUSTRY WATCH



DAVID RUBINSTEIN

for lighting the stations. "This is information the company probably never would have gotten," Gruhl said.

All this sounds very Orwellian, Gruhl acknowledged. But he emphasized that people working on the project are sensitive to the issue. "If you tell us not to use your information, we won't," he said, although he didn't say quite yet how people could opt out of having their chats and e-mails collected, sliced and diced. "There's a huge amount of privacy that disappears when you correlate information, and one of our fellows looks at nothing but privacy. But once something goes up on the Web, it's kind of frightening what you can find."

Calling the Web faceless but not anonymous, Gruhl said people post things on Web sites "they wouldn't tell their doctor. We'd like the people today going through search engines to take a step back and say, 'What does this information mean to my company, or my career?'"

Once this information is collected, it is mined through text analytics platforms and translated into UTF-8 before the team checks the information for relationships. "There are 50 different things we sift through," Gruhl said. "It runs on a cluster, and we look across the data to pull out tidbits that

may be of use to our applications."

Gruhl said the team is compiling portfolios of information around entities of interest, and developing what he called disambiguation technology to separate out associations, which will allow the data collectors to hone the information so it can become useful. By the time every Web site is taken in, IBM will be storing 10 times as much as the actual Web pages themselves, Gruhl said, because the team is adding context to the content.

Then there are those who might try to skew the information by placing millions of posts on the Web, such as those who might wish to bash a particular company or brand. Gruhl said the team can track who's doing the posting and determine if the posts are to be believed or not, likening it to spam.

When asked if that might make the information gathered less reliable, Gruhl said, "You can flip through your newspaper and see it's 50 percent spam," he said, referring to the ads, "although I'm sure the marketing department would prefer not to see it that way."

One content management company, Factiva, a joint operation of Dow Jones and Reuters news services, is going to market with a beta of a tool based on the IBM technology called Reputation Management, which gathers information from Web sites and discussion groups that might have a positive or negative impact on a company or brand reputation. Other projects are in the works, but as Gruhl said, "We're a research lab, and there's a mismatch between 'This could be useful in five years' and 'I have to deliver this Monday.'"

Nonetheless, somewhere, somehow, Big Brother, or is that Big Blue, really is watching. ■

David Rubinstein is executive editor of SD Times.

BUSINESS BRIEFS

Embedded Linux tools developer **TimeSys Corp.** last month closed a US\$8 million round of funding to expand its tool offerings. **Adams Capital Management Inc.** led the investors, which also included **Philips Electronics**, **The Hillman Company** and TimeSys chief executive Larry Weidman. The company also announced a partnership with **Motorola Computer Group** to deliver the TimeSys Linux RTOS software development kits for the MVME4400 VMEbus single board computer, Motorola's highest-performance board. . . . As expected, shareholders of **Palm Inc.** and **Handspring Inc.** have approved Palm's purchase of Handspring and the creation of the **palmOne** company, which will continue to develop handheld hardware. They also approved the spin-off of the software group as an independent company, called **PalmSource Inc.** Eric Benhamou continues as chairman of both companies. . . . Software life-cycle tools vendor **Telelogic AB** reported revenue of US\$28.2 million and a pretax profit of \$6 million for the third quarter of 2003 ended Sept. 30, based on Swedish accounting principles. The company said it expects to be cash-flow positive in 2004. . . . **Sun Microsystems Inc.** reported revenue for its first fiscal quarter of 2004, which ended Sept. 30, of US\$2.53 billion, down 8 percent from the \$2.74 billion brought in during the first quarter of 2003. Net loss for the quarter was \$286 million, compared with a net loss of \$111 million for the same period a year ago. The company reported it has \$5.5 million in cash and marketable securities. . . . **Compuware Corp.** has reported revenue of US\$302.8 million, down from \$358 million last year, for its second fiscal quarter of 2004 ended Sept. 30. The company showed a loss of 2 cents per share as compared with earnings of 9 cents from the year-ago quarter. . . . Data management solutions provider **Pervasive Software Inc.** posted earnings of US\$1.4 million based on revenue of \$9.4 million for the first fiscal quarter of 2004 ended Sept. 30. The earnings grew slightly from the \$1.3 million posted for the same quarter in 2003, and revenue was up marginally from \$9.2 million. ■

CALENDAR OF EVENTS

ApacheCon Nov. 16-20
Las Vegas
APACHE SOFTWARE FOUNDATION
www.apachecon.com/2003/US

Comdex Fall Nov. 16-20
Las Vegas
MEDIALIVE INTERNATIONAL INC.
www.comdex.com

MAX: 2003 Macromedia Conference Nov. 18-21
Salt Lake City
MACROMEDIA INC.
www.macromedia.com/macromedia/conference

XML Conference & Expo Dec. 7-12
Philadelphia
IDEALLIANCE
www.xmlconference.org/xmlusa

MacWorld Expo Jan. 5-9
San Francisco
IDG WORLD EXPO
www.macworldexpo.com

For a more complete calendar of U.S. software development events, see www.bzmedia.com/calendar. Information is subject to change. Send news about upcoming events to events@bzmedia.com.

DATA WATCH

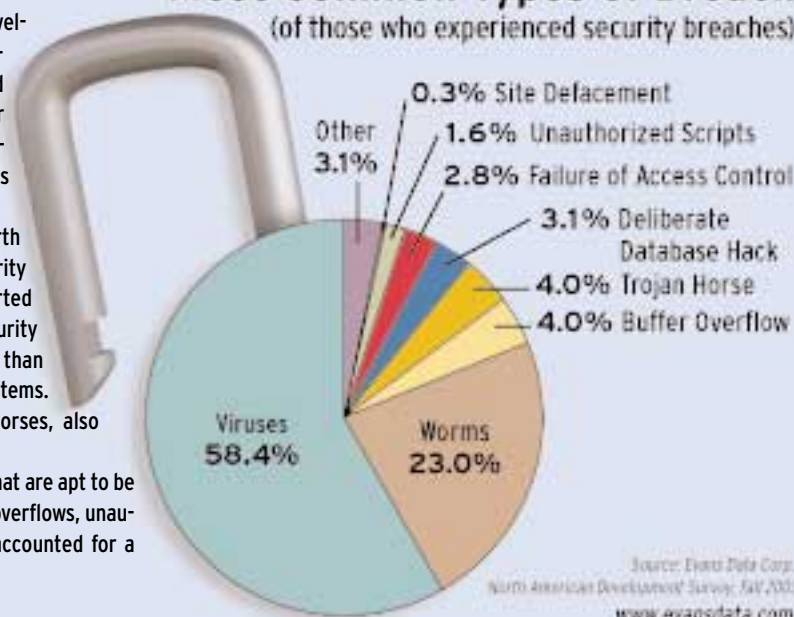
Application security can't be left to the firewall. Developers, as well as systems and network administrators, have to do their part to protect in-house and purchased software against unauthorized access or disruption. Privacy issues, including those mandated by governments, also increase the imperatives for protecting customer and employee data.

A recent study from Evans Data Corp. asked North American developers about the nature of the security breaches encountered. Only about one-third reported that they had no network or Internet-related security breaches. Of those who had been breached, more than half reported that viruses had entered their systems. Anonymous attacks, such as worms and Trojan horses, also were encountered by these developers.

More individually malicious attacks—the ones that are apt to be delivered toward a specific target—such as buffer overflows, unauthorized scripts and deliberate database hacks, accounted for a significant number of breaches.

Most Common Types of Breach

(of those who experienced security breaches)



KNOWLEDGE MANAGEMENT

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'STINGER' BUZZES INTO BETA, TYING DB2 TO .NET

BY THOMAS L. LEE

IBM Corp. announced today that it is making its new database, DB2, available to .NET applications. The move is a significant step for IBM's DB2 database, which has been a mainstay of the company's database business for decades.

"This is a significant step for IBM's DB2 database, which has been a mainstay of the company's database business for decades," said John Jones, director of strategy for IBM DB2 information management software.

Code named "Stinger," the new software includes additions to DB2 to integrate the database closely into Microsoft's Visual Studio .NET 2003 as well as with IBM's Rational XDE.

Developer visual data models: These will be made it possible to create models and make them into parts of a database, as well as to create the Web services that connect to them.

"It's trying to tie it all together so that you don't have to leave one environment to work in another," said Eric Nelling, senior manager for model-driven development at IBM's Rational Software Division.

The database will also take advantage of Microsoft's native ADO.NET Data Provider method, which is also DB2-integrated with .NET applications more seamlessly than using JDBC or some generic data access.

IBM DB2 is a leading database.

Microsoft Steers 'Longhorn'

Developer conference focuses on internals of Windows XP successor

BY ALAN BRIDGEMAN

LOS ANGELES — Since a term that combined the words of long and horn, Microsoft Corp. and its annual Professional Developers Conference to discuss the details of the next major update to Windows, code-named "Longhorn."

Despite the fact, however, the show was packed, with more than 1,000 developers in attendance, according to the company.

While Microsoft still isn't ready to commit to a date for Longhorn's release, all indications are that it will be ready by 2006.

Nokia Cleans Up Its SDK Act

Developer Platform 2.0: consistent device capabilities

BY BERNARD J. COHEN

In late October Nokia Inc. announced that it was cleaning up its SDK act, which had been plagued with issues of mobile devices that may or may not run applications developed for other in the same series. This allows more a much better, in which the company cleaned up its SDK act with the formation of Nokia Enterprise Solutions, one of four new groups intended to help the company focus on convergence, new mobility markets and growth.

"What we were doing was to launch a whole lot of devices to the market with an underlying assumption that [developers] could depend upon within Nokia," said Leo Epping, Nokia vice president of developer operations. The result, the statement, was a laundry list of products that are only loosely connected, but was a consistent starting point for developers.

"It wasn't clear that if we changed licensing technology in a [device], we were telling developers we had changed it. So if their application relied on that license, it wouldn't work."

Epping, who spent the past six years involved in enterprise developer services with IBM's Spring and Palm, claimed that Nokia is addressing the problem with the introduction of Developer Platform 2.0, Series 60, a set of specifications for its high-end mobile devices running Symbian OS V10 and (PDA) MIDP 2.0. Nokia in the spring of 2004 will begin shipping the 7700, the first Series 60 2.0-compliant smartphone.

"Now we've defined how software for our platform," he said. "Every time we launch a new device, it will be based on this platform."

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